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No. 1

Proposal Advanced for Financing Farm Transition

Government Would
Guarantee Bank
Loans Under Plan

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON — There is a substantial but yet inarticulate group within U.S. Department of Agriculture which believes that it ultimately will be necessary for the federal government to join in a cooperative venture with private banking institutions to make loans to farmers to encourage a rapid transition from field crops to pastures development on which livestock may be produced profitably.

Such a joint venture, as conceived within USDA, would be only a government guarantee of part of loans to farmers to change their farm patterns of production from such field crops as wheat and cotton to pasture and.

(Continued on page 5)

Simpson Coal & Chemical to Construct Ammonia Plant in Mississippi

NEW YORK — The board of directors of Simpson Coal & Chemical Corp., Standard Ore & Alloys Corp. subsidiary, have authorized construction of a plant in the Natchez, Miss., area for production of anhydrous ammonia and acetylene.

A plant site and natural gas have already been secured. Contracts for the construction are expected to be awarded within the near future.

According to company officials, immediate plans call for the production of 60,000 tons of anhydrous ammonia annually. Production of the ammonia is expected to get under way in the second quarter of 1956.

WASHINGTON WIRE

No Major Farm Legislation Changes Expected From the 84th Congress

By JOHN CIPPERLY
Croplife Washington Correspondent

WASHINGTON — No major changes in present farm legislation are expected from the 84th Congress, which will convene here this week.

As a basis for this conclusion, Sen. Allen J. Ellender (D., La.), who is expected to become head of the Senate Agriculture Committee, sees little hope for the passage and approval of the White House of any major changes which, for example, would be designed to restore the rigid high level of price supports for farm commodities.

As a cotton state representative and Louisiana senator and his con-

Fertilizer Tonnage Down, But Use of Primary Nutrients Up, Preliminary USDA Report Shows

WASHINGTON — Use of commercial fertilizer in the U.S. and territories during the fiscal year ended last June 30 dipped 2.3% from that in 1952-53, but consumption of primary plant nutrients showed a 3.6% gain, according to a preliminary estimate by the U.S. Department of Agriculture.

Commercial fertilizer consumption in 1953-54 totaled 22,875,000 short tons, a decrease of 538,000 tons from the 23,413,000 tons used the previous fiscal year, the report states.

However, use of primary plant nutrients amounted to 5,851,000 short tons in 1953-54, an increase of 203,000 tons over the 1952-53 consumption of 5,648,000 tons.

The preliminary report was prepared by Walter Scholl, Hilda M. Wallace and Esther I. Fox, Fertilizer and Agricultural Lime Section, Soil and Water Conservation Research Branch, Agricultural Research Service of USDA at Beltsville, Md.

Consumption of commercial mix-

tures amounted to 15,675,000 tons, materials containing primary plant nutrients (N, P₂O₅, K₂O) for direct use to 6,620,000 tons, and secondary and trace element materials to 580,000 tons, according to the report. These quantities were, respectively, 0.3, 2.8, and 33.9% below the consumption in 1952-53.

The total tonnage of fertilizer used in July-December, 1953, was approximately 18% less than in the corresponding period of 1952, while the tonnage used in January-June, 1954, was 4% more than in the corresponding period of 1953.

Regionally, consumption of fertilizer east of the Mississippi River was 2 to 7% less than in 1952-53, while it was up to 7% more in areas west of the Mississippi. See Table 1.

The biggest regional gain, of 7%, was posted by the West North Central states of Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska and Kansas.

Consumption in the territories was 7% more than in 1952-53.

Increases in the consumption of

(Continued on page 20)

Tariff Commission Schedules Hearing On Potash Imports

WASHINGTON — The U.S. Tariff Commission has scheduled a public hearing for Feb. 8 on imports of muriate of potash from the Federal Republic of Germany and from France.

According to a release from the Tariff Commission, on Dec. 15 it received advice from the Treasury Dept. that muriate of potash from the two countries "is being, or is likely to be, sold in the U.S. at less than its fair value."

A similar hearing, in connection with imports of muriate of potash from the Soviet Zone of Germany, has been scheduled at the same site for Jan. 25.

Parties wishing to appear and to be heard at either hearing should file requests in writing with the secretary of the U.S. Tariff Commission, not later than 3 days in advance of the hearing date.

Trade Act to Top Legislative Calendar

WASHINGTON — Top priority in the administration legislative program will go to extension of the Reciprocal Trade Agreements Act, adoption of an official U.S. position in the General Agreement on Tariffs and Trade (GATT) and modification of customs regulations.

The administration, facing a receptive bi-partisan bloc for this program, may be expected to push it at the very outset of the first session of the 84th Congress.

The Reciprocal Trade Agreements Act, first in priority, would be for a three year extension and probably would follow the lines laid down in the president's message to the last session of the 83rd Congress.

Preliminary reactions reported here would indicate that opposition will arise from the steel industry and chemical industry sources, the latter of which have not been clearly identified.

Notwithstanding any particular industry position, foreign trade will be the opening gun in the 84th Congress legislative battle and one which the Eisenhower administration may select as an attractive battleground on which to establish its control over the Republican party.

New Kansas Firm Starts Operation

FORT SCOTT, KANSAS — A new fertilizer firm, the Mo-Kan Fertilizer Co., 21st and Cooper St. started operation with arrival of the first carload of anhydrous ammonia Dec. 22. Owner of the new firm is F. S. Popplewell, Route 5, Fort Scott. The firm's storage tank capacity is 30,000 gal. Shipments of the fertilizer are made from the Phillips Chemical Co., Etter, Texas.

Super Production Gains in October

WASHINGTON — U.S. production of superphosphate for the month of October amounted to 180,503 short tons (100% A.P.A.) according to the Bureau of Census, Department of Commerce. This figure represents an increase of 18% from the revised September, 1954, output and is 4% more than the figure reported for the corresponding month of 1953.

Shipments of all grades of superphosphate totaled 119,977 tons for October, or an increase of 16% from the previous month's volume and a 15% increase from the figure reported for October, 1953.

Stocks on hand at the end of October were 3% less than those held on Oct. 1, 1954, and 4% more than the quantities on hand as of Oct. 31, 1953. These monthly figures (including percentage changes) are unadjusted for seasonal variation and number of working days.

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Agronomists to Meet in California

DAVIS, CAL. — More than one thousand soil and plant scientists from the U.S. and Canada will meet on the agricultural college campus of the University of California at Davis for a scientific conference next summer.

The American Society of Agronomy and its affiliate organization, the Soil Science Society of America, will gather at Davis for a convention scheduled to be held between Aug. 15-19. It will be the first meeting of the two associations to be held west of the Rocky Mountains.

From advance information of the conference, it is believed that as many as 450 technical papers will be presented during the five days when the university will act as host to the scientific organizations and their 1,000 or so delegates.

There are 139 members of the societies located in California, the largest number for any single state of the 48. Forty-one foreign countries will also be represented at the convention in these societies.

Field trips stressing soil, crops, pastures, and range and forest problems peculiar to California will be arranged as parts of the five-day program.

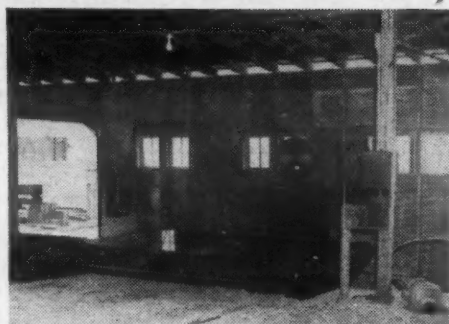
Conference plans also include a full program for wives and children, so that society members can bring their families to next summer's meeting.

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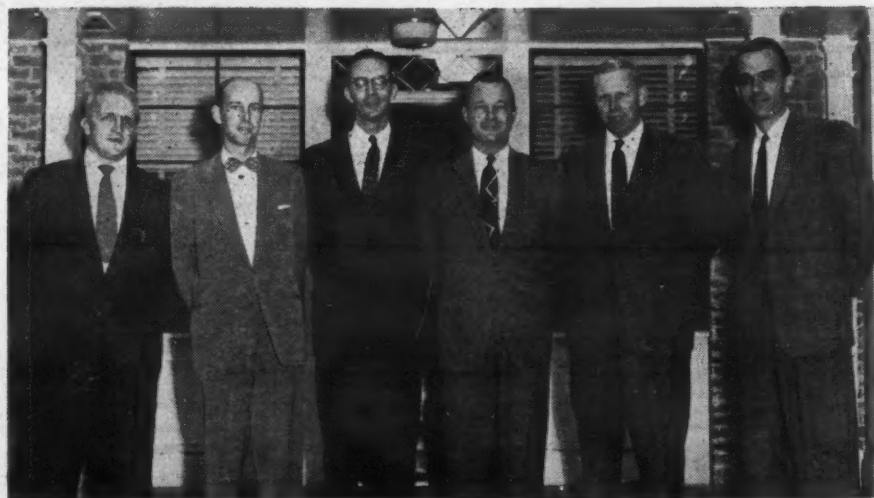
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TO MAN NEW PENNSALT OFFICE—Here are the sales and technical service representatives who will work out of the new Aurora, Ill. office of Pennsylvania Salt Mfg. Co. of Washington. They are, left to right: Harold L. Lindaberry; Donald E. Hope, John J. Stamm, D. Laurence Davis, Ed Fall, and Charles G. Whinfrey, Jr., manager of the new Aurora office.

Pennsalt Opens New Office

AURORA, ILL. — Pennsylvania Salt Manufacturing Co. of Washington recently opened a new Agricultural Chemicals Northern Division office here.

Fred C. Shanaman, president of Pennsalt of Washington, said the site was chosen to provide a more central point in the northern 26 states for sales and service on Pennsalt's Penco line of agricultural chemicals.

In charge will be Charles G. Whinfrey, Jr., Northern Division sales manager, formerly of Philadelphia. He is a graduate of Rutgers and Cornell Universities and has seven years service with Pennsalt as well as naval service during World War II.

Assisting will be Harold L. Lindaberry, technical service, who is a

graduate of Arkansas State and Rutgers University in plant pathology and entomology. Mr. Lindaberry has three years with Pennsalt and served in the Air Force during World War II.

In addition to clerical and accounting staff, other sales and technical service representatives reporting to this new office are located in states of Pennsylvania, Indiana, Missouri, Connecticut and Maine.

Pennsalt plants are located at Tacoma, Wash.; Portland, Ore.; Bryan, Texas, and Montgomery, Ala., and other facilities are at Natrona, Pa., and Calvert City, Ky.

Reichhold Chemicals Acquires Building

WHITE PLAINS, N.Y.—Reichhold Chemicals, Inc., has acquired the entire two-and-a-half story building at 525 North Broadway here as its executive offices, according to an announcement by Henry H. Reichhold, chairman of the board. Previously, the company occupied the second floor of the modern air-conditioned building.

All Reichhold administrative, sales, foreign and export departments will be centralized at this location. A helicopter shuttle service will transport visiting executives to White Plains from two principal New York airports.

Firm Moves

PATERSON, N.J.—The offices and plant of the B. G. Pratt Co. have been located at 204 21st Ave. after 50 years in New York and Hackensack, N.J. The Pratt line includes 35 insecticides. The first product, produced in 1904, was an oil spray for the control of San Jose scale.

R. H. Wellman Heads Agricultural Chemicals At Carbide & Carbon

NEW YORK—Dr. R. H. Wellman has been appointed manager of the Agricultural Chemicals Division of Carbide & Carbon Chemicals Co., division of Union Carbide & Carbon Corp., it has been announced by H. B. McClure, president. He will work with Dr. R. L. Bateman newly-appointed director of product development in developing markets for the company's newer products.

Dr. Bateman, formerly manager of the Fine Chemicals Division, will work with John A. Field who was recently made vice president in charge of sales development and related activities for the firm.

Carbide has also announced the appointment of W. A. Woodcock as manager of the Fine Chemicals Division to succeed Dr. Bateman.

Frederic H. Courtenay Named Secretary Of Federal Chemical

LOUISVILLE—Frederic H. Courtenay, who has worked at three of Federal Chemical Co.'s plants in the past five years, was elected secretary of the company recently. He has worked in sales and production departments.

Clark L. Kelly, Jr., assistant credit manager the past two years, was elected assistant treasurer. He has been with the firm since 1947.

Samuel Gwathmey Tyler and W. Roberts Wood were elected directors. Mr. Tyler is vice president and director of sales of Robertson Co., Inc., varnish manufacturer. Mr. Wood is executive vice president of The Girdler Co., a vice president and director of National Cylinder Gas Co., and a director of Commonwealth Life Insurance Co.

The new directors were elected to fill vacancies created by the retirement of Lyman C. Martin and W. B. Cobb.

REPRESENTATIVE NAMED

LOS ANGELES—The Aerosol and Refrigeration Division of American Potash & Chemical Corp. has appointed Harold A. McDermott, Sr., Rensselaer, N.Y., as its sales representative in New York State, excluding metropolitan New York. In addition, Mr. McDermott will handle the company's aerosol and refrigerant sales in Burlington, Vt.

VICE PRESIDENT NAMED

NEW YORK—Thomas P. Brown has been named vice president of Scientific Design Co., Inc., according to an announcement by Harry A. Rehnberg, president. The firm specializes in design and engineering of organic chemical processes and plants.

NATURE and PREVENTION of PLANT DISEASES

By K. STARR CHESTER, Ph.D.—Stresses the practical aspects of plant disease control. Presents the essential features of plant pathology as exemplified in the leading diseases of important American crops. Extensive revisions of seed treatment, and spraying and dusting of fruits and vegetables are included. The latest developments in control practices, including the slurry, pelleting and vapor-heat methods of seed treatment, new non-metallic organic fungicides, innovations in methods of spraying and dusting are discussed.

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NFA Names Officers, Members of Plant Food Research Group

WASHINGTON — The National Fertilizer Assn. has released the names of officers and members of its Plant Food Research Committee for 1954-55. This group is established to complement the association's program of service to the industry and to agriculture.

General chairman of the committee is George V. Taylor, New York. Vice chairman is Borden S. Chronister, Nitrogen Division, Allied Chemical & Dye Corp., Hopewell, Va. and co-secretaries are Malcolm H. McVicker, chief agronomist of the NFA and Edwin C. Kapusta, NFA's chemical engineer.

The committee is divided into two general divisions: Crop Production and Fertilizer Manufacturing. Under each are several sections, each headed by a chairman and manned by several committee members.

Chairman of the Forage and Pasture Crops section of the Crop Production Division, is A. H. Bowers, Swift & Co., Chicago. Serving in this section are William T. Dible, International Minerals & Chemical Corp., Chicago; M. K. Miller, Tennessee Corp., Cincinnati; James A. Naftel, Pacific Coast Borax Co., Auburn, Cal.; J. Fielding Reed, American Potash Institute, Atlanta, and John Taylor, Jr., Grand River Division, Weere & Co., Tulsa.

The Agronomic Field Crops Section headed by Proctor W. Gull, Spencer Chemical Co., Kansas City. Committee members are: W. L. Nelson, American Potash Institute, Lafayette, La.; Robert Q. Parks, Grace Chemical Co., Memphis; H. L. Peterson, Lincoln Service and Supply, Inc., Grand Island, Neb., and Philip R. Smith, Buhner Fertilizer Co., Danville, Ill.

M. E. McCollam, American Potash Institute, San Jose, Calif. is chairman of the section on horticultural crops. Serving with him are Carl Baur, Pacific Supply Cooperative, Portland, Ore.; S. D. Gray, American Potash Institute, Washington, and Robert H. Engle, NFA, Washington, D.C.

M. V. Bailey, American Cyanamid Co., New York, is chairman of the section on chemical weed and insect control. With him in this work are F. Bridgers, Farmers Cotton Oil Co., Wilson, N.C.; F. M. Jorlin, E. I. duPont de Nemours & Co., Inc., Wilmington, Del., and Arthur M. Smith, Olin Mathieson Chemical Corp., Baltimore.

The section on Manufacturing Technology is headed by Richard E. Bennett, Farm Fertilizers, Inc., Omaha. Six committeemen are serving with him in this project. They are D. Barnes, Lion Oil Co., El Dorado, Ark.; F. W. Darner, U.S. Phosphoric Products Division, Tennessee Corp., Washington, D.C.; C. F. Ireland, Nitrogen Division, Allied Chemical & Dye Corp., Raleigh, N. C.; R. MacDonald, International Minerals & Chemical Corp., Chicago; G. F. MacLeod, Sunland Industries, Inc., Fresno, Calif., and George V. Taylor.

Vincent Sauchelli, Davison Chemical Co. Division, W. R. Grace & Co., Baltimore, is chairman of the group on chemical control. His committeemen are J. R. Archer, International Minerals & Chemical Corp., East Point, Ga.; H. L. Marshall, Olin Mathieson Chemical Corp., Baltimore; W. A. Morgan, E. I. duPont de Nemours & Co., Wilmington; E. L. Robinson, Tennessee Corp., East Point, Ga.; M. D. Sanders, Swift & Co., Chicago, and P. McG. Shuey, Shuey & Co., Savannah, Ga.

According to Dr. Russell Coleman,

president of the NFA, overall objectives of this group are to "initiate, encourage and cooperate in research directed toward the continued development of more efficient methods of fertilizer manufacture, marketing and use," and to "compile, interpret and disseminate the information gained from such research to hasten and expand its practical application."

Diamond Promotion

CLEVELAND—C. W. Turner, for the past five and a half years supervisor of dairy industries sales for Diamond Alkali Co., has been promoted to the position of manager of specialty sales, it was announced here recently at the company's national headquarters by John W. Mantz, general manager of the firm's Silicate, Detergent, Calcium Division. At his new post, Turner will be responsible for directing and correlating merchandising programs of Diamond's branch sales offices with those of independent chemical merchants who distribute its specialized detergents and related chemicals.

Commerce Department Sees High Level Production in 1955

WASHINGTON — Sinclair Weeks, secretary of commerce, has announced that a general high level of production for 1955 is indicated in surveys of basic and leading industries in the U.S. by the 25 industry divisions of the department's Business and Defense Services Administration.

The 25 Industry Divisions of BDSA, under the supervision of Charles F. Honeywell, administrator, represent the business point of view in government. Each division covers one basic production industry or a group of closely allied industries, totaling more than 400.

The BDSA estimates of selected industries include:

Chemicals—Many areas of this industry will reach new highs in 1955 after a leveling-off last year largely due to gradual inventory reduction. The two areas of the industry which use the largest dollar volume of chemicals—synthetic fibres and plastics—are expected to continue their enormous growth rate of doubling every five years. The drug and pharmaceutical industry will continue its methodical, but rapid expansion,

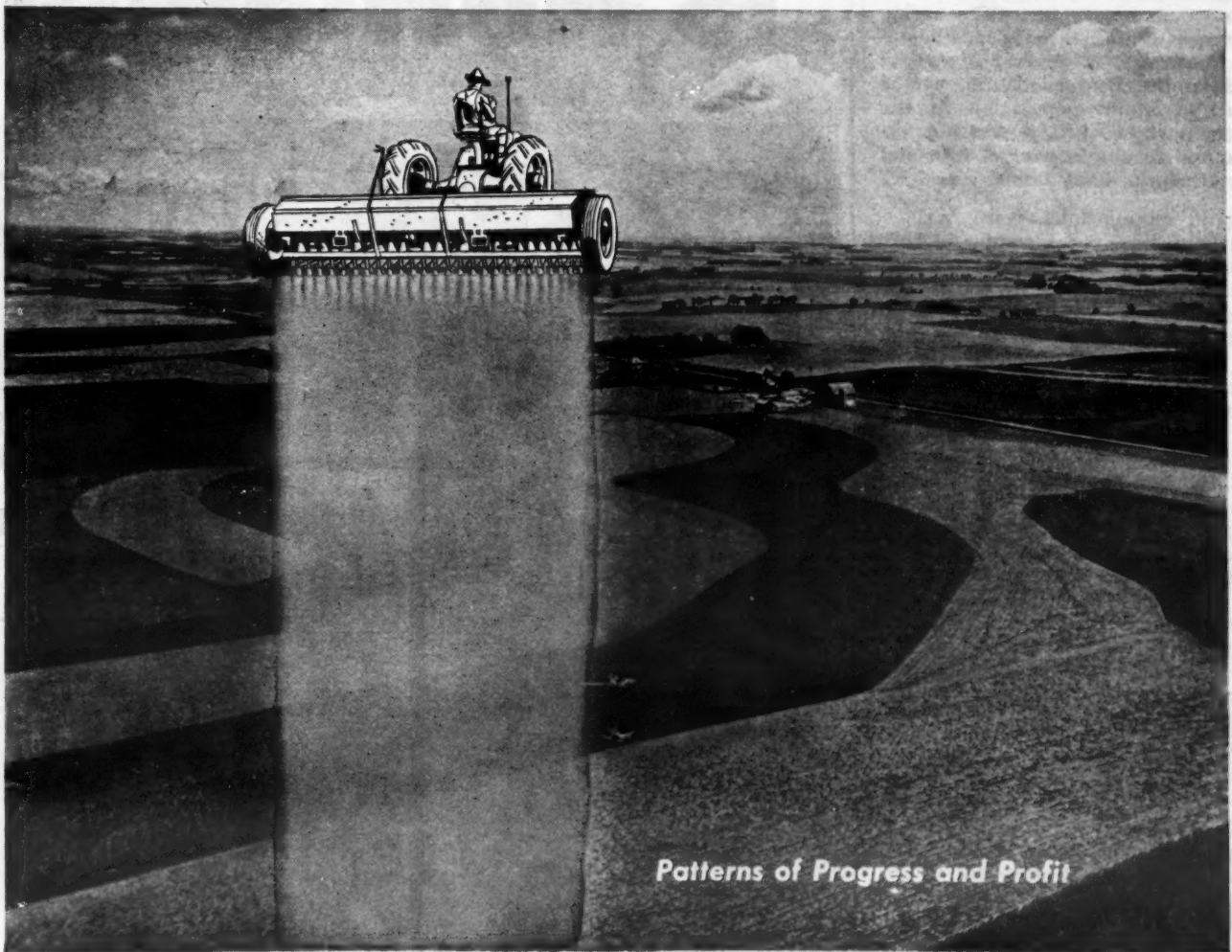
which is roughly three times the average of all manufacturing industries.

Agricultural Machinery — Farm equipment in dealers' hands is at a much lower level than a year ago and leading producers of such equipment believe the downward trend has ended and that 1955 production and sales should equal or exceed 1954. However, any appreciable down-turn in farm income could adversely affect sales.

Nitrogen Increases Brome Seed Yields

AMES, IOWA—Tests conducted by Iowa State College show that unfertilized brome grass plots yielded 112 lb. seed per acre, while plots getting 100 lb. actual nitrogen per acre yielded 441 lb. per acre.

The Iowa station also measured seed yields to determine the effect of actual nitrogen on broadcast and row plots. In the row plots, the rows were 21 and 42 in. apart and in the broadcast plots, brome was seeded alone or with alfalfa. The 42-in. rows, with 100 lb. actual nitrogen, yielded 345 lb. seed per acre; the 21-in. rows averaged 281 lb. seed; the broadcast plots yielded 221 lb. Alfalfa with brome grass yielded slightly higher than brome grass broadcast alone.



(Photo—Courtesy Soil Conservation Service, U.S.D.A.)

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INSECT AND PLANT DISEASE NOTES

Maryland Recounts Infestations of Insects During 1954

COLLEGE PARK, MD.—A summary of insect conditions in the state of Maryland, compiled by W. C. Harding and T. L. Bissell, reports that heavy losses of alfalfa were caused by the alfalfa weevil (*Hypera postica*) during the year. The insect, first reported in the state in 1952, did heavy damage to the first cutting from Carroll County around the Bay to Talbot County on the Eastern Shore. All but two counties, Allegany and Garrett, were infested. New counties found to have the weevil were Somerset, St. Marys and Washington. Carroll County had heavy damage for the first time. In eastern Frederick County, damage was light, but heavier damage is expected in the county in 1955.

It is estimated from one quarter to one half of the first cutting was lost to the weevil. In some instances, the second growth was held back by adult feeding. More and more alfalfa growers are using sprays to control this pest.

Another problem pest on alfalfa during 1954 was the pea aphid (*Macrosiphum pisi*) which did heavy damage in the spring throughout the state. It was heaviest, however, in central Maryland and on the Eastern shore. At the peak of aphid population in the latter part of April, it was not uncommon to obtain over a thousand per sweep in many fields.

Aphid populations were reduced greatly during the second and third weeks of May because of a fungus disease which helped to control the pests. The disease, however, did not clean up the infestation before damage was done and general spraying was used to gain control.

Pea aphid was also serious on canning peas on the Eastern Shore and central Maryland, with sprays being used for control.

Red clover received considerable damage from the lesser clover leaf weevil (*Hypera nigrostris*) larvae in Harford, Howard and Kent counties during May and June. Leaf bracts and crowns were damaged, giving the crop a stunted appearance.

Strawberry spider mite (*Tetranychus atlanticus*) injured red and Ladino clovers in central Maryland in early June. Soybeans on the Eastern Shore were heavily attacked in August and early September.

Corn earworm (*Heliothis armigera*) was more than normally serious in 1954. Not only did it seriously damage the early and late sweet corn canning crop, but also pods of late snap and lima beans, especially on the Eastern Shore. Many growers had to spray to control this pest.

Codling moth (*Carpocapsa pomonella*) in the second and partial third brood, caused more damage to apples than at any time since 1945. This unusually heavy damage was attributed to poor control near the end of the first brood, which extended later than usual, and to the extremely hot and dry weather.

Boxelder bug (*Leptocoris trivittatus*)—An unusual outbreak occurred during fall. Numerous calls and letters were received about this bug gathering on and entering houses. European pine shoot moth (*Rhyacionia buoliana*) was reported as being in Allegany County. This is the first official record of this pest being in Maryland.

Cutworms, wireworms, billbugs, sod webworm and flea beetles did considerable damage over the state to newly sprouted corn. In many areas it seems as though it would

have paid to use an insecticide before planting.

European corn borer (*Pyrausta nubilalis*) infestations were low in practically all sections. Damage at the canneries as in 1953 was negligible. The 1954 fall population according to the annual survey was lower than in 1953. The highest populations being in Washington County and on the lower Eastern Shore.

Sap beetle infestations in harvested sweet corn, ranged from light to heavy. Fall armyworm (*Laphygma frugiperda*) infestations were about normal with the late sweet corn crop being damaged in many areas. Corn leaf aphid (*Rhopalosiphum maidis*) was quite heavy over the state on field corn during August and September.

Armyworm (*Pseudaletia unipuncta*) did light to moderate damage to barley and oats on the Eastern Shore during May and June. In southern Maryland, St. Marys County had a serious outbreak in early June on grain and young corn. As many as 25 a sq. ft. were reported from one locality. In general, however, armyworms were less injurious than in 1953. A sawfly (*Cephus* sp.) infested 75% of the wheat stems in one field in Harford County.

First hatch of meadow spittlebug was noticed March 24 on weeds in Queen Annes County. Hatching on alfalfa, clover and hay mixtures general over state during first two weeks in April, except in extreme western counties where they were found the second week in May. Spraying was general from Talbot to Washington Counties, and by a few farmers west to Garrett. High adult populations in late summer indicate that the spittlebug will again be a serious problem on hay in 1955.

Grasshoppers were not the problem they were in 1953, however,

there was local damage to alfalfa and clover in Montgomery and Frederick Counties during July and August. One extremely heavy infestation was noted on alfalfa at Camus. The species involved were mainly the red-legged, differentials and two-striped grasshoppers.

Potato leafhopper (*Empoasca fabae*), in general, was not as bad in 1953. Infestations on the second and third cuttings of alfalfa seem to persist longer than in 1953. Damage was noticeable on the Eastern Shore and Montgomery County early October.

Cutworms damaged clover pastures in Allegany and Garrett Counties. Other insects that were numerous in alfalfa and clover fields during spring and summer were tarnished plant bug, green cloverworm, pale-striped flea beetle, spotted cucumber beetle, clover root curculio, and clover leaf weevil. It is estimated that hay insects during the year consumed about 50,000 tons of hay, which represented about one and a half million dollars

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FARM LOANS

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The Benson program is one of
ransition from a level of high sup
orts which encouraged uneconomic
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rove a study of this possibility.
This opinion within USDA is not
the open, but knowledge of such
ormed and official support may

In its simplest terms here is what
could happen: A program might be
developed within USDA—if given
honest parentage—whereby USDA
would join with local banks to guar-
antee loans to farmers who would
adopt a reasonable long range pro-
gram to shift their farm pattern.
The only share USDA would have
in the program would be loan guar-
antees to encourage local bankers
to accept the job of moving the
farm communities into a better eco-
nomic climate.

to one wherein farmers made effec-
tive use of their land through the pro-
duction of livestock on adequate pas-
ture crops.

Within recent years the plant food
industry has been breaking ground
in this field, supported by college of-
ficials and extension service agents.
The plant food industry has worked
through commercial banks to attain
this long range goal.

Secretary Benson has broken with
the past history of high price sup-
ports and is pushing ahead with a
flexible support system at least for
the basic farm crops. But it appears
that to prevent a too-spartan period
immediately ahead for many farms,
it may be necessary to accelerate the
transition from a field crop economy
to the livestock emphasis which he
wants.

Perhaps it may be necessary for

some advocate in government to sug-
gest that the force of the federal
government be put behind a program
which would include the facilities of
commercial banks plus the guarantees
of loans for transitional production
purpose by the federal government.

Few persons here believe that the
last election settled the national farm
program although it may be con-
strued as a set-back to the high price
support principle.

But time is now the essence. It
is important and urgent that farm-
ers transfer their effort from a
wheat-cotton economy in as many
as 35 million acres to one of live-
stock and pasture land.

If the plant food industry will gear
its sales efforts to custom tailored
plans for each farm, backed up by
commercial banks and if necessary
by some partial guarantee of loans
by the federal government, it is seen
possible that the Benson goals for
agriculture may be moving close to
their fulfillment.

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unFarm Customers...

Just about every time farmers turn the pages of
a farm magazine this year of 1955, they'll be turning
to full page advertisements of one or more
ARCADIAN® products. ARCADIAN UREA 45 —
Nitrogen Solutions for Direct Application—American
Nitrate of Soda — A-N-L® Nitrogen Fertilizer and
others. Full pages and half pages that smack the
reader right in the eye with outstanding advantages of
these ARCADIAN Fertilizers that are as modern as
tomorrow's agriculture. These selling messages will be
seen by millions of farmers every month of the fertil-
izer season. Some 1500 local newspapers will also
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All this, plus continued radio campaigns on big
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ARCADIAN products in the minds of your cus-
tomers — to move more ARCADIAN products. As an
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profit through your place of business.

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sell ARCADIAN Fertilizers getting this intensive
advertising support. Get your full quota of aids to
help you sell easier, faster, more. The time is ripe —
the time to stock ARCADIAN is right now. For full
information, fill in the coupon below.

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45% Nitrogen Pellets
- ☐ 12-12-12 Granular
Fertilizer
- ☐ American Nitrate of Soda
Improved Granular
- ☐ A-N-L® Nitrogen Fertilizer
Pelleted
- Nitrogen Solutions**
- ☐ Non-pressure
URAN* and FERAN*
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California Pesticide Registrations Set Record in 1953-54

SAN FRANCISCO—A total of 947
firms registered a record number of
11,368 pesticide products for sale or
use in California during the fiscal
year 1953-54, according to a report
just issued by the Bureau of Chem-
istry of the State Department of
Agriculture.

An increase of only five firms from
the total in the previous fiscal year
concealed in part the addition of 21
firms registering for the general sale
of pesticides—up from 854 to 875
between the two fiscal years. A drop
of nine firms in the "household" clas-
sification and seven more in the "use-
sale" classification offset most of the
gain shown in the principal category.

The number of products regis-
tered showed an increase of slight-
ly under 5%, recording a gain of
about 525, from 10,843 pesticides
registered for use or sale in 1952-
53, to 11,368 during the fiscal year
recently ended.

The Bureau of Chemistry sampled
a total of 2,007 pesticide products
during the year and found approxi-
mately 85% up to standard. Ten per-
cent, or 210, were classed as deficient,
and less than 5%, or 91, were termed
"misbranded." The relative number of
deficiencies was the lowest in several
years, having been about 11% last
year and 12.5% two years before.

Among the poisonous chemicals
registered during the year were the
following: three classifications of ar-
senicals, two classifications of sul-
furs, five classifications of metallic
compounds, seven classifications of
DDT products, 14 classifications of
organic chlorine compounds, two
classifications of botanicals, nine clas-
sifications of organic phosphates, six
classifications of petroleum oils, and
13 miscellaneous classifications, or a
total of nine groups and 61 sub-
groups.

Ohio Farmer Wins Corn King Award

CHICAGO — Willard Kirk, Jeffer-
sonville, Ohio, is the new interna-
tional corn king. He was crowned at
the 32nd International Grain & Hay
Show, International Amphitheater,
Chicago, this week.

Mr. Kirk's entry of 844-D hybrid
corn had been awarded the reserve
champion ribbon earlier but was
moved up when the first prize win-
ners were disqualified. Mr. Kirk was
the corn king also in 1951.

Two brothers, Paul and Arnold
Karsk, Pecatonica, Ill., had been
named joint corn kings but were dis-
qualified after it was found, following
other exhibitors' complaints, that
kernels on a sample ear had been
glued on. Officials emphasized that
there was no apparent dishonesty.
They said that on the prize winning
ear which was disqualified, it ap-
peared that four or five kernels at
the butt end had been knocked off
and then glued back. They said the
corn could have been exhibited with
the kernels missing.

Elson Baur, Unionville, Mich., was
named international wheat king at
the show. His entry was Yorkwin soft
white winter wheat.

In other competition, John Ruther-
ford, Newcastle, Ind., was named the
certified shelled corn champion. The
winning entry was 608-C variety. The
reserve champion in this class was
Watson Farms, Inc., Rock Mount,
N.C.

Ben T. Gildersleeve, Hudson, Ill.,
won his third soybean championship
Clark variety. Reserve soybean win-
ner was Clifford Dale, Glanworth,
at the show. His winning entry was
Ont.

Tom Corlett, Clairmont, Alta., won
the oats championship with an entry
of Larain variety oats.

Range Fertilization Found Profitable In California Tests

DAVIS, CAL. — Cattle raisers and feeders can get better results from their livestock if they fertilize the rangeland with nitrogen fertilizers.

Researchers at the University of California here have discovered that such fertilizer has the capacity of doubling meat production, as the result of experiments in five California counties during tests last winter conducted by agricultural extension specialists at the University.

The fertilizer also is successful in speeding up growth of annual grasses after the fall rains and producing feed earlier for cattle and sheep.

The test ranges selected in Alameda, Glenn, Santa Clara, Solana and Tehama counties were fertilized with nitrogen and nitrogen-phosphorus mixtures during the fall months of 1953. Actual meat production of 693 animals on 1,118 acres—520 of them fertilized—was used to measure the results.

On the best land, meat yields per acre were almost doubled, said range management specialist Lester J. Berry on the Davis campus. On poorer range, production was increased five fold.

Profits from increased meat production during the grazing period equalled or exceeded the fertilizer costs in four of the tests, Mr. Berry said. In the Tehama County tests the higher lamb and mutton produc-

tion—although increased fourfold—did not pay the entire cost of the fertilizer during the first season.

Further tests are planned for the current winter period to find more exact information on amounts of nitrogen to produce profitably green feed in the earlier winter grazing season, as well as boost the amount of feed produced on California range lands. William E. Martin, extension soils specialist at Berkeley, is working with Mr. Berry on the studies.

Ranchers cooperating in the project include Elwyn Mulqueeney of Alameda County; Frank Nelson of Santa Clara County; J. W. Sevier of Glenn County; John Lawler of Solano County; and the Tesseire Brothers of Tehama County. Local farm advisors also assisted in the range trials.

Edgar Williams Heads Horticulture Society

DOVER, DEL.—Edgar Williams of Salisbury, Md., was named president of the Peninsula Horticultural Society at the 68th annual meeting of the group here recently.

During a panel discussion on irrigation of vegetables, C. W. Reynolds, University of Maryland, said that "results indicate that it may be very important to follow an adequate spray or dust program to control foliar diseases when irrigation is used with certain crops, such as cucumbers or tomatoes."

Florida Consumption

TALLAHASSEE—Consumption of fertilizer in Florida during November totaled 200,285 tons, according to a report by the Fertilizer Statistical Division of the State Department of Agriculture. The total included 139,935.3 tons of mixed fertilizers and 60,349.6 tons of materials.

Land Owners Cited in Eradication Program

SACRAMENTO — Three Butte County property owners have been cited to appear in superior court to answer charges arising from their alleged refusal to allow state and federal extermination crews on their lands as a part of a campaign to eradicate Hall's scale infestation on plants and trees.

The citations were issued by District Attorney R. A. Leonard for the appearance of Albert N. Clements and Peter Gross, both of Oroville, Cal., and John O. Beers of the Chico, Cal., vicinity.

The parasite is a rare occurrence in the U.S. It is known to exist in only three localities in North America. Two of those areas are the south side of Oroville and in the Bidwell Park district of Chico. The third is in Davis, Cal.

Southwestern Corn Borer in Kansas

MANHATTAN, KANSAS — The Southwestern corn borer (*Diatraea grandiosella*) has extended its range from the original two counties in the southwest corner of Kansas (1931) to a present near-state-wide distribution. To date, no borers have been found in Decatur, Rawlins, Cheyenne, Sherman, and Wallace counties of northwest Kansas; and a survey made this fall (1954) failed to find any of these borers in either Atchison or Doniphan counties of northeast Kansas. Three new county records (based on the presence of girdled corn stalks containing the borers) were added in 1954; these being Jewell, north central area, and Brown and Wyandotte counties, northeast corner of the state. Southwestern corn borers have been found in all of the other counties of Kansas prior to 1954.

Rice Committee Asks For More Weed, Insect Research

WASHINGTON — Expansion of studies of rice genetics to include such characters as earliness in relation to yield, morphology (size and structure), disease reaction, chalkiness, milling and cooking quality was recommended by the Rice Research and Marketing Advisory Committee in its meeting Dec. 13-15 at New Orleans.

Highlighting other production research recommendations were those to (1) expand work on chemical control of rice field insects to include the use of systemics (assimilated insecticides) both as seed treatments and sprays, and research on resistance of rice varieties to insect attack, and (2) expand research on weed control. This, to include western rice-producing areas, should include studies of pre-planting, pre-emergence and post-emergence control of grasses and broadleaved weeds in rice, and new herbicides in comparison to 2,4-D, the committee recommended.

Receives Safety Honor

BURLINGTON, VT. — Silas H. Jewett, Lamoille County agricultural agent, received the National Safety Council's citation for meritorious service to safety at the Vermont Extension Conference on the University of Vermont campus Dec. 15. Mr. Jewett was honored because he helped in the formation of a Lamoille County Farm and Home Safety Council and has conducted a continuing program of safety education from his Extension office in Morrisville. Presentation was made by E. C. Schneider, agricultural engineer at the University of Vermont.

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Program Announced for Southern Weed Meeting in Florida

ST. PETERSBURG, FLA. — Scientists from southern land-grant colleges, the U.S. Department of Agriculture and representatives of the agricultural chemical industry will gather here Jan. 17-19 for the eighth annual Southern Weed Control Conference. The meeting is expected to bring together a record number of groups concerned with all phases of weed control in southern agriculture. Warren C. Shaw, USDA weed specialist, president of the Southern Weed Conference, has announced the program of the three day meeting. Sessions on the latest developments in controlling weeds in many crops are scheduled, with nationally-known speakers on the agenda.

Presiding at the opening session Monday morning will be G. C. Klingman, North Carolina State College, Raleigh. The afternoon program will include talks by W. C. Shaw, D. W. Colvard, North Carolina State College; Lea S. Hitchner, executive secretary, National Agricultural Chemicals Assn., Washington, D.C.; and J. W. Britton, Dow Chemical Co.

Concurrent sessions will be held on Tuesday with subjects including weed control in agronomic crops, cotton, and woody plants.

The effect of CMU on sugar cane fields will be discussed in a number of papers, as will the subject of using Dalapon on weeds in field corn.

New herbicidal chemicals will be reviewed by a number of speakers including L. H. Hannah, Monsanto Chemical Co., St. Louis, Mo.; and B. Baker, E. R. Stamper, C. H. Thomas, W. L. Sloane and W. K. Porter, Jr., all of the Louisiana Agricultural Experiment Station, Baton Rouge.

The subject of weed control in peanuts will occupy a prominent place in the program of Wednesday, with reports of experiments being reviewed. Such reports are scheduled to be presented by W. E. Chappell, Virginia Agricultural Experiment Station, Blacksburg; R. P. Upchurch, North Carolina State College of Agriculture and Engineering, Raleigh; Jack T. Thompson, Ellis W. Hauser and S. V. Stacy, Georgia Agricultural Experiment Station, Experiment, Ga.; J. R. Wheatley, Carbide & Carbon Chemicals Co., New York; W. W. Wells, Florida Agricultural Supply Co., Jacksonville; Clyde C. Helms, Jr., Florida Agricultural Experiment Station, Leesburg; E. O. Burt, Gainesville, Fla.; and H. E. Rea, Texas Agricultural Experiment Station, College Station.

"Physiological Problems in Herbicidal Investigations" are due for full discussion on Wednesday's program. Scheduled to present papers on different phases of this topic are B. H. Grigsby, Michigan State College, East Lansing; R. Behrens, W. C. Gall, C. E. Fisher and E. R. Cogart, USDA, Texas Agricultural Experiment Station, College Station; A. J. Watson, Dow Chemical Co., Greenville, Miss.; W. H. Goodman, R. D. Palmer and W. B. Ennis Jr., Mississippi Agricultural Experiment Station, State College, Miss.; G. B. Truchelut, Dow Chemical Co., Freeport, Texas; Arthur R. Colmer, Louisiana State University, Baton Rouge; A. M. Davis, University of Arkansas, Fayetteville, and C. G. Parris and E. G. Rodgers, University of Florida, Gainesville.

All sessions of the conference will be held at the Soreno Hotel, St. Petersburg. The hotel has set aside a number of rooms especially for those attending the conference, and reservations should be made as soon as possible, conference officials state.

California Sets Up Quarantine for Khapra Beetle Control

SAN FRANCISCO—To combat the new threat of the Khapra beetle, the California State Department of Agriculture has quarantined certain carrier plants to restrict the movement from infested areas in the state. Both products and articles are subject to the quarantine to stop spread of the beetle to stored grain.

The quarantine becomes effective Jan. 12, and is directed at 54 infested properties, and any properties to be discovered as infested in the future. It is known as the Khapra Beetle Interior Quarantine.

The infested areas include 20 properties in Imperial County, 13 in Kern County, 11 in Fresno county, the most heavily affected sections; three properties each in Kings, Riverside, and Tulare counties, and one in San Francisco county.

County agricultural commissioners

are largely responsible for enforcing the quarantine, operating under the direction of the Bureau of Plant Quarantine. Commissioners may issue permits authorizing movement of untreated grain and grain products for immediate consumption as food in open feed lots, corrals, or pens, and of untreated seed to growers for immediate planting.

HIGH YIELDS

LAFAYETTE, IND. — Indiana's 1954 wheat yield of 30 bu. per acre, average, topped all records since the Civil War. Yields of oats, barley and corn were high, too, according to agricultural statistics at Purdue University.

RESEARCH FUNDS

WASHINGTON—Federal funds for agricultural research this year have been increased about 10 million dollars over last year's funds. Of this, 5.7 million was added to federal-grant funds to states and territories.

Plans Set for Third Colorado Fertilizer Conference

FORT COLLINS—The third annual Colorado fertilizer conference has been scheduled Jan. 10-11 on the Colorado A&M campus.

The conference is planned primarily for fertilizer manufacturers and distributors, professional soil scientists, agronomists and other technicians but is open to all interested persons. District conferences will be held in four or five locations over the state later for fertilizer dealers, county agents, and farmers, according to Rodney Tucker, extension agronomist at Colorado A&M.

Mr. Tucker said the conference at A&M opens with registrations at 10 a.m. Jan. 10 in the small ballroom of the College Student Union Bldg.

The conference is sponsored by the A&M Experiment Station, the Extension Service and the fertilizer industry.

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Use either T-H Aldrin FB-25 (contains 25% Aldrin) or T-H Aldrin FB-20 (contains 20% aldrin) . . . two Aldrin formulations that are dust-free and easy to handle.

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Production of Inorganic Chemicals Rises in October

WASHINGTON — October, 1954, production levels of industrially important inorganic chemicals in the U.S. were generally higher than those reported for the previous month or for the corresponding month of 1953, according to the information compiled by the Bureau of Census and collected in cooperation with the Business and Defense Services Administration, Department of Commerce.

Increases from September, 1954, were reported for 33 of the 51 chemicals included in this release while the output of 15 was lower. In comparison with the October, 1953, output, October, 1954, figures were higher for 21 chemicals shown and lower for 15.

The production of approximately 300,000 tons of caustic soda, 260,000 tons of chlorine gas, 163,000 tons of ammonium nitrate and 184,000 tons of nitric acid reported for the month of October, 1954, exceeded all previously reported monthly production records for these heavy volume chemicals.

End of the month inventories at the producing plants for 36 chemicals were higher than for Sept. 30, 1954, while declines were reported for 13.

Successful Spraying Calls for Planning, Horticulturists Hear

YAKIMA, WASH. — "A successful spray program calls for careful planning so that the necessary sprays will be applied at the proper time," Wallace Van Amburg of Perham Fruit Co., Yakima, told the 50th anniversary convention of the Washington Horticultural Assn. here recently.

Mr. Van Amburg, speaking on "Economy in Pest Control," said, "today as always thoroughness of application is of prime importance and it is only by using the best materials, properly timed and thoroughly applied, that we can keep the number of sprays to a minimum and thereby achieve the lowest costs consistent with good pest control."

He reviewed changes in 50 years of orchard management over the life span of the association "from the barrel pump and bamboo rod to the air blast machines of today" and said "along with the mechanical improvements in spray equipment have come great changes in the field of chemical spray materials."

Edward W. Anthon of the Washington tree fruit experiment station at Wenatchee outlined some control experiments on stone fruit mites and aphids.

Nineteen experimental insecticides have been tested for the control of mites on peaches. Showing promise were demeton (Systox), chlorobenzilate, wettable sulfur, sulphenone, and Aramite, he said.

E. J. Newcomer of the entomology research branch of the agricultural research service at Yakima, said reports have been received from growers in Washington as well as in Ohio, Nova Scotia and West Virginia that the control of codling moth is apparently developing resistance to DDT just as the common house fly has developed resistance. Experiments with worms from various parts of the country indicate that results have not been getting progressively worse in recent years but rather vary from year to year. In 1954, for example, the season was cool in Washington and control results were excellent.

Mr. Newcomer said the situation will have to be watched. "There is no substitute for good timing or thorough work," he said.

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EDITOR'S NOTE

The accompanying article is adapted from "Fertilizer Use and Crop Yields," a report published this month by the U.S. Department of Agriculture. The publication is a result of studies of the Fertilizer Work Group, National Soil and Fertilizer Research Committee, in cooperation with the Soil and Water Conservation Research Branch and the Production Economics Research Branch and Agricultural Research Service, USDA. This article, on the southern states, was prepared for the report by W. E. Colwell, head of the Department of Agronomy, North Carolina State College. Mr. Colwell was Work Group representative for the southern states. The Work Group was appointed in March, 1951, and the figures in this report are based on 1950 and 1951 data. Nevertheless, they should prove valuable as a guide to the potential fertilizer market in the years ahead. An article from this report, on opportunities for more efficient fertilizer use in the Northeast states, appeared in the Dec. 27 issue of Croplife.

Good Production Practices Result in 4-Bale Cotton Yields

STATE COLLEGE, MISS. — The goal of four bales of cotton per acre has been exceeded for the first time under official contest conditions by champion Mississippi cotton growers honored recently at the Sixth Annual Mississippi Five-Acre Cotton Day.

Thomas R. Coleman, young Delta grower of near Yazoo City, made the highest yield of 2,112 lb. lint per acre, or 4.22 bales per acre, in the 1954 Five-Acre Cotton Contest. This former 4-H Club member was also highest in the state last year with 1,650 lb. lint per acre.

Sharing honors and equal awards with young Coleman are brothers, J. W. Pruett and J. H. Pruett of Clarksdale. Their record is 2,072 lb. of lint per acre, or 4.14 bales.

Mr. Coleman broke his silty loam land to a depth of eight to ten inches late in 1953 to pulverize a plow sole. He then irrigated twice, after mid-July and again early in August, after having had some rains until that time. He irrigated inexpensively by using a second-hand pump powered by an old automobile engine.

He planted D&PL 15 breeder seed Apr. 10, fertilized with 125 lb. nitrogen per acre and 150 lb. potash per acre, and poisoned 13 times.

The Pruett brothers subsoiled their sandy loam soil to a depth of 24 inches in the fall of 1953, shattering both a hardpan six inches below the surface and a second such hard layer in the subsoil. They irrigated four times by the furrow method, using gated pipe laid along the ridges in their field.

The brothers planted D&PL 15 breeder seed. They applied 80 lb. nitrogen per acre Apr. 1 and another 70 lb. per acre as side dressing on June 30. Eleven insecticide applications were needed for insect control.

GYPSUM TRIALS

LUBBOCK, TEXAS — The United Gypsum Co. is putting gypsum on several monitor farms in this area where accurate checks can be made on the results.

Opportunities for More Efficient Fertilizer Use in Southern States

The South is traditionally a heavy user of fertilizers, and in 1951 this region was still consuming 50% of the total fertilizer nutrients in the nation. So dependent is the farmer of the humid South upon chemical fertilizers that he could not continue

in production for long without them.

Percentage-wise, consumption has not increased as much as in other regions, but the base tonnage in other parts of the nation is small in comparison to that of the South. In terms of absolute quantities of

plant nutrients, usage has been increased sharply during 1940-50. It is expected to increase rapidly during the next period of years (Table 1).

The factors of climate and soils that were responsible for early use of fertilizer are the same factors that now call for still greater quantities for maximum production. For most crops grown extensively in the South, yields are only one third to one half the production potential. However, the average yields of tobacco and certain vegetable crops now approach the potential yield.

These relatively high value crops receive heavy applications of plant nutrients through regular fertilization practices. In spite of relatively heavy fertilizer sales in the region, most crops are still greatly under-fertilized. The low average usage of fertilizer, as noted in Table 2, may be related to the per capita income of the region, which is the lowest in the nation.

The 1950 fertilizer consumption data, given in table 1, show that North Carolina, Georgia and Alabama consume larger amounts of plant nutrients than the other states. Lowest consumers are Tennessee, Arkansas, Louisiana, Texas and Oklahoma. Large parts of Texas and Oklahoma are semiarid to arid; hence, fertilizer use is limited.

For the region, in 1950, consumption of nutrients was divided as follows: N, 28.6%; P₂O₅, 45.9%; and K₂O, 25.5%. This proportion, however, varies between states, although North Carolina, South Carolina, Georgia, Alabama and Tennessee approach the region's average.

Kentucky and Virginia use less nitrogen and more phosphate, while Florida uses less phosphate and more potash. Mississippi, Arkansas and Louisiana depend heavily on nitrogen. Texas and Oklahoma use more phosphate and less potash in their fertilizers than any of the other states.

More than 70% of all nutrients consumed in the region are as mixtures; however, this also varies among states, ranging from well over 80% in east coast states to less than 50% in Mississippi and in the western part of the region.

For the most part the South derives its agricultural income from row crops, with corn, cotton, tobacco, peanuts, and soybeans predominating. Pasture improvement represents the best opportunity for greater income in the future. Even in the humid areas, average use of fertilizers on pasture and hay crops is remarkably low.

Careful study of all the experimental data available in the southern region reveals some striking opportunities for higher production through greatly increased quantities of fertilizer, as indicated by Table 3. Similarly, the data reveal situations where fertilizer rates may be safely reduced without impairing crop production.

Increased use of phosphate and potash on pasture and hay crops shows striking benefit. Yield increases of one third can be expected.

(Continued on page 11)

Table 1—Estimates of Quantities of Commercial Plant Nutrients Used in the Southern States in 1950 and Those Needed for Level of Production Attainable in 1955¹

State	1950			1955 attainable		
	N	P ₂ O ₅	K ₂ O	N	P ₂ O ₅	K ₂ O
	tons	tons	tons	tons	tons	tons
Virginia	26,862	80,906	43,723	35,877	104,159	63,568
North Carolina	92,148	146,276	104,142	133,200	211,567	199,268
South Carolina	52,126	72,756	48,243	81,644	123,133	89,735
Georgia	63,104	107,101	67,461	100,028	140,073	125,481
Florida	42,704	64,436	63,584	72,494	80,880	88,421
Kentucky	21,758	75,221	27,198	28,270	96,505	35,915
Tennessee	23,343	56,885	28,834	32,728	68,070	43,547
Alabama	61,711	97,669	53,047	106,283	126,475	86,393
Mississippi	84,961	46,395	23,807	157,031	95,874	48,540
Arkansas	38,700	35,500	23,550	66,416	76,873	48,025
Louisiana	30,155	25,261	12,084	40,634	30,562	14,101
Oklahoma	5,000	30,000	3,000	29,823	68,298	7,060
Texas	28,643	78,877	11,844	64,667	122,281	19,337
Total	571,215	917,283	510,517	949,095	1,344,750	869,391

¹Estimates of quantities of commercial plant nutrients used in 1950 and of those needed for level and pattern of production attainable in 1955. U.S. Department of Agriculture, Jan. 31, 1952. (Processed.)

Table 2—Planted Acreage and Average Use of N, P₂O₅ and K₂O for Major Crops in the Southern States during 1950

Crops—	Total acreage 1,000 acres	Nutrients		
		N lb./acre	P ₂ O ₅ lb./acre	K ₂ O lb./acre
Corn	25,556	15	13	9
Sorghum	8,185	5	6	3
Wheat	14,364	2	4	12
Rye	506	5	14	6
Barley	532	8	18	8
Oats	6,727	8	8	6
Soybeans	2,215	1	8	6
Rice	1,368	11	8	4
Peanuts	2,812	3	14	9
Cotton	17,142	15	15	9
Tobacco	1,462	37	90	64
Sugarcane	353	31	6	14
Flaxseed	245	5	6	1
Potatoes	338	59	85	63
Vegetables	1,717	43	72	50
Fruits and nuts	1,891	42	45	49
Hay	11,113	2	11	4
Pasture and cover crops	155,343	3	3	8

Table 3—Production Potential of Some Major Fertilizer-using Crops in the Southern States and Yields in 1950

Crop and unit	Yield in 1950—		Potential yield with full fertilization		Increase obtainable with full fertilization
	Average units/acre	Total for region 1,000 units	Average units/acre	Total for region 1,000 units	
Corn grain, bu. ...	27	638,699	73	1,726,214	1,087,515
Sorgh. grain, bu. ...	23	150,786	32	209,425	58,639
Wheat, bu.	10	91,576	32	295,406	203,830
Rye, bu.	11	1,182	34	3,694	2,512
Barley, bu.	21	8,890	40	17,096	8,206
Oats, bu.	24	122,982	57	292,814	169,832
Soybeans, bu.	20	34,200	34	57,966	23,766
Peanuts, lb.	892	1,998,220	1,274	2,854,600	856,380
Cotton, lb.	255	4,060,000	567	9,022,000	4,962,000
Tobacco, lb.	1,271	1,811,114	1,513	2,156,088	344,974
Potatoes, bu.	128	43,027	217	72,927	29,900
Hay, tons	1.2	15,529	2.1	26,774	11,245

Mr. Dealer--Cut out this page for your bulletin board

BUG OF THE WEEK

Boll Weevil



How to Identify

The adult boll weevil is a grayish-brown snout beetle about a quarter-inch in length (lower right in illustration). The larva is shown at the left of picture and the pupa in the upper right hand corner.

Habits of Boll Weevil

Boll weevils pass the winter as adults in woods trash or other protected places near cottonfields. They return to cottonfields in spring and remain there until frost. The bug prefers to feed on and to lay eggs in squares, but it also attacks cotton bolls. Eggs are laid singly in deep punctures and hatch into larvae in from 3 to 5 days. The larvae feed for 7 to 14 days within the squares or bolls and then change into pupae. Adults emerge from the pupae in from 3 to 5 days and cut their way out of the squares. They then proceed to feed on blooms, squares or bolls for 3 or 4 days, after which time the females are ready to lay eggs. The cycle from egg to adult weevil takes about 3 weeks. There may be seven generations a year.

Damage Done by Boll Weevil

This insect causes more damage to cotton in the U.S. than any other pest. Its damage is known to cotton growers from Texas to Virginia. The leaf-like bracts at the base of squares punctured by the insect open up, or flare, and the squares turn yellow and die. Most of the squares and small bolls thus

punctured, are shed. Large bolls are not shed when punctured, but the lock in which a grub is feeding fails to develop properly. Lint is cut, stained brown and decayed, making the product unmarketable.

Control of Boll Weevil

Since this pest causes such heavy damage, a number of types of controls have been recommended in the states where the boll weevil exists. These controls are somewhat complicated when cotton bollworm, cotton aphid or spider mite are present; consequently in some cases, combinations of materials are indicated. Toxaphene as a dust or spray, applied at 2 to 3 lb. an acre, technical; BHC (3% gamma) plus 5% DDT; lime-free calcium arsenate plus 1% parathion and 5% DDT; 20% toxaphene; 2.5% aldrin alone or with 5% DDT; 1.5% or 2.5% dieldrin alone or with 5% DDT; 10% chlordane plus 5% DDT are among the materials which have given control. Other combinations and concentrations of these materials have been recommended in various sections. While these chemical treatments, properly applied, give effective control, it is also advisable to follow other good farming practices in combatting this pest. Harvesting promptly and cutting the green stalks as much before frost as possible hold down the weevil population. Correct planting, fertilization and cultivating methods also help to thwart the weevil in the spring.

Drawings of larva, pupa and adult boll weevil furnished Croplife through courtesy of Hercules Powder Co., Wilmington, Del.

Additional "BUG OF THE WEEK" features are scheduled to follow in Croplife. We suggest that you keep them for future reference. When the series is complete, reprints will be available.

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These facts, panding acre d pasture in y important i fertilizer u phenomenal re applications on fer an oppor rm income f uestock enter g, and in-the manure for n are all ree tion in the

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EFFICIENT FERTILIZER USE

(Continued from page 9)

on hay crops through the use of approximately 40 lb. P₂O₅ per acre, which is four times the current average rate. The same amount of P₂O₅ will, on the average, also increase production by one third.

These facts, together with greatly expanding acres of improving hay and pasture in the South, are especially important in making future plans for fertilizer use in this region. The phenomenal returns from fertilizer applications on hay and pasture crops offer an opportunity to supplement farm income from cash crops by a livestock enterprise. Silage, haymaking, and in-the-pasture accumulation of manure for the short winter season are all receiving widespread attention in the region.

In the region as a whole, corn presents a great opportunity. The average fertilization rate is 15 lb. N per acre, 13 lb. P₂O₅ and 9 lb. K₂O (Table 2). Average yield is only 27 bu. per acre, and it is estimated that this is only 37% of the production potential.

If state recommendations for nitrogen, for example, were followed throughout the area on the 26 million farm acres, nitrogen supplies would be inadequate even with the anticipated expansion of facilities.

Cotton is receiving only 15 lb. nitrogen per acre on the average. Experimental data show this to be far below optimum. Production is only 45% of the potential.

Wheat planted on 14 million acres receives an average application of 15 lb. N per acre. If Oklahoma and Texas are not considered, the average rate is near 15. In certain parts of the South, nitrogen rates of 60 to 75 lb. N per acre are recommended.

In carrying forward the program of more efficient utilization of fertilizers, some markets for currently accepted grades will need to be abandoned. Greater efforts should be expended to develop new markets in line with the opportunities for maximum production as revealed by the crop-response data.

Although the data summarizing all current information are included in this report, it has seemed appropriate to call attention to a number of developments in the South that may well affect the interpretation of these figures, especially insofar as future use of fertilizer is concerned.

This is done at the risk of omitting important considerations or overemphasizing others. It is hoped, however, that the bringing up of certain of these points for thought and analysis will contribute somewhat to a clearer understanding of the very important problem of fertilizer use in the South.

As supplemental irrigation becomes more widely practiced in the region, fertilizer rates will be stepped up. A sharp increase in areas to be irrigated is anticipated. Much of this will undoubtedly be on heavily fertilized crops.

As methods develop for the control of insect pests and plant diseases, particularly some of the soil-borne diseases, factors previously limiting crop production will have been removed and new levels of fertilization will become practical.

Though fertilizer use may be expected to decline somewhat with falling prices, if such should prevail, there is at hand now more reliable data on crop response than there have been previously.

Credit agencies are making increased use of research findings. With an understanding of the true role of

adequate fertilization and other cultural practices, it is expected that state recommendations will be followed reasonably closely by these agencies.

Wider use of soil-testing services and the increasingly greater confidence that can be placed in the interpretation of data will play a part in accelerating the rate at which shifts in fertilizer practices can be made.

In many instances a soil may be particularly deficient in one fertilizer nutrient; soil tests are effective in pointing up this specific need. Soils in the South are generally acid, and

increased usage of lime will make for more effective use of higher quantities of fertilizer.

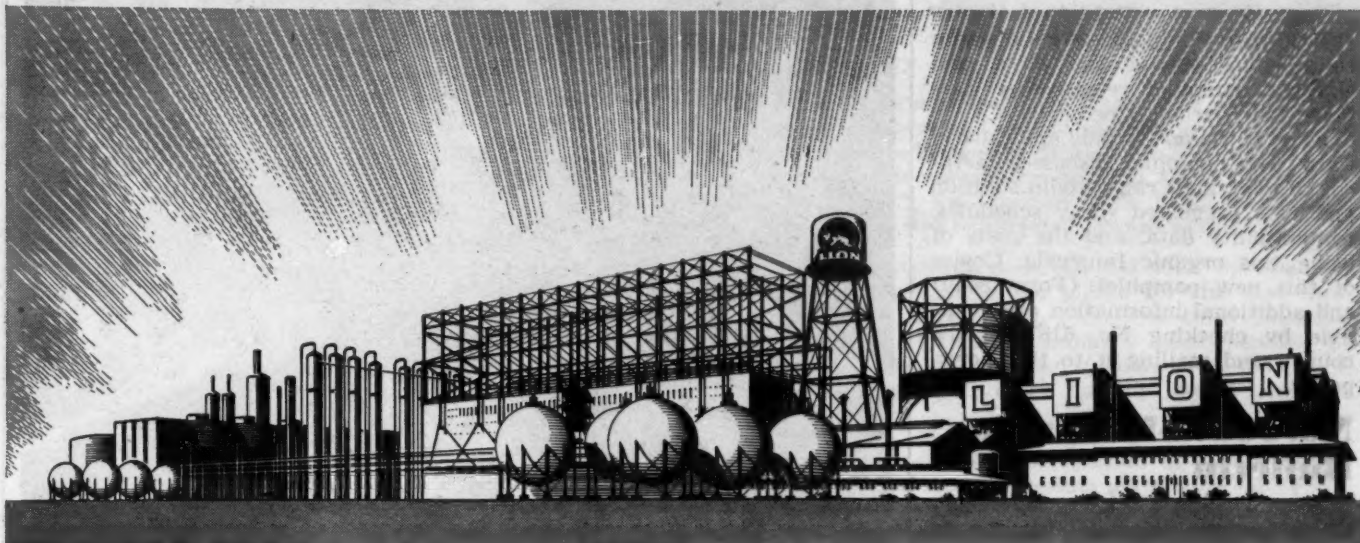
Neighboring states are giving more attention to joint planning and interpreting of fertilizer experiments and matters pertaining to grades and ratios. This tends to unify somewhat the recommendations across state lines, with a correspondingly stronger educational impetus being given to any new grade or practice.

The introduction of high-analysis fertilizer materials, with a corresponding increase in average plant nutrient content in mixed fertilizers, may be expected to have a general effect of increasing the pounds of nutrients per acre. It may follow also that price per unit of plant nutrient will decline.

Continued expansion of southern pasture acreages is expected. This is essentially a new market.

With renewed emphasis on practical means of improving the physical conditions of soil, there is reason to believe that poor structural conditions may limit crop growth less frequently than has been the case in the past.

There is an increasing awareness on the part of agricultural leaders and farmers in the southern region that high fertilization and conservation of the capacity of the soil to produce go together. The concept of fertilizing the land for the rotation is prevailing over the concept of fertilizing the crop. The clear recognition of the part fertilizers play in a sustained high production may have a bearing upon their future use.



How LION Helps YOU Sell NITROGEN FERTILIZERS

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- ✓ Advertising Helps Create the Demand

As a retailer, you'll find it to your advantage to sell Lion nitrogen fertilizers, because Lion's manufacturing capacity and storage facilities assure a ready supply of top-quality materials, and Lion's consistent advertising pre-sells the Lion brand.

Capacity? Lion's two giant chemical plants are now in production, making Lion a leader in manufacturing the most popular and economical types of nitrogen fertilizers not only in the South but nation-wide.

Delivery? Lion has constructed huge storage facilities to accumulate enormous stocks of the various nitrogen fertilizer materials. Even when demand is intense, you can get Lion nitrogen products.

Pre-selling? Lion's continuous advertising does an effective pre-selling job for you with your farmer customers. See list below.

Feature and sell nitrogen fertilizers with the Lion emblem on the bag, or Lion's anhydrous ammonia. You'll make sales easier, which means more profit for you.

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Lion Aqua Ammonia • Lion Nitrogen Fertilizer Solutions
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- Prairie Farmer
- Progressive Farmer
- Wallace's Farmer & Iowa Homestead
- Leading State Farm Publications

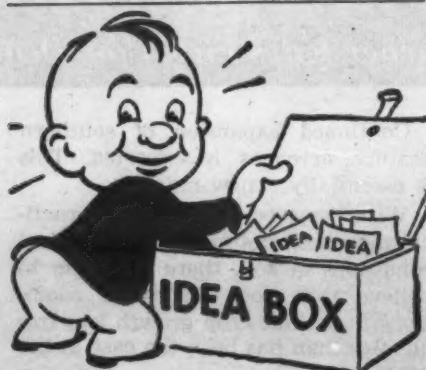
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LION OIL
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COMPANY
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What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6187—Cherry Leaf Spot Control

Control of cherry leaf spot with Crag Fruit Fungicide 341 (aglyodin solution) is the subject of a new six-page pamphlet released by Carbide and Carbon Chemicals Co., a division of Union Carbide and Carbon Corp. The pamphlet discusses methods of applying Crag glyodin solution and lists suggested spray schedules, compatibility data, and the costs of using this organic fungicide. Copies of this new pamphlet (Form 8419) and additional information are available by checking No. 6187 on the coupon and mailing it to this newspaper.

No. 5045—Packaging Bulletin

The Triangle Package Machinery Co. announces the availability of a six page bulletin, "Profitable Solution to Your Package Filling Problems." The bulletin describes the firm's line of Elec-Tri-Pak net weighing and filling machines and lists the advantages of using a unit to do many of the packaging jobs now done by hand. Six models, from the automatic, one-scale model A1C to the three-scale model A3C are described in the bulletin. Copies of the bulletin may be obtained by checking No. 6045 on the coupon and mailing it to this publication.



No. 6188—Fertilizer Applicator, Planter

Working in cooperation with soil and fertilizer experts at Michigan State College, Farmcraft Mfg. Co., Inc., is producing a unit called the Hi-Yield, two-level fertilizer applicator and planter. The new unit places two bands of fertilizer in the ground, one band 8 in. down, the other 4 in. down. Seeds are placed 2 in. to one side of the shallow band and 2 in. below the ground surface.

Unique construction enables the applicator-planter to lay down two different analyses simultaneously, according to the firm, and divided seed hoppers also make interplanting possible. The Hi-Yield will do drill or hill drop planting, by simple interchange of metering plates in the hoppers. In addition, the unit can be adapted to liquid fertilizers, the company states.

Planting and fertilizing speeds up to five miles per hour are claimed with no sacrifice of seed or fertilizer placement accuracy. Extra large fertilizer and seed hoppers are provided.

Two-level fertilizer placement, it is explained, attempts to provide the nutrient for beginning growth (shallow band) while the deeper band can contain an analysis suitable for bringing the plant to maximum size and productivity.

The prototype of the machine was designed at Michigan State College, under the direction of a group of soil and fertilizer experts, headed by C. M. Hansen, assistant professor of agricultural engineering, and R. E. Lucas, associate professor of soil science. For more information check No. 6188 and mail the coupon.

No. 5055—Grain Fumigant

A folder describing its grain fumigant, Lethogas, has been prepared by the Parsons Chemical Works. Entitled "Facts and Data on Parsons Lethogas," the folder tells how the product works as a fumigant for grain weevil and certain other insects. The product forms a gas upon exposure to air, destroys by contact and gas fumes and is not a fire hazard, it is claimed. The product is sold in 5-gal., 30-gal. and 55-gal. drums for use in larger structures and in 1/2-gal., 1-gal. and 5-gal. cans for farm use. Facts about Kilane residual spray, an insecticide spray, are also included in the folder. Methods for the hand in hand use of Lethogas and Kilane to control weevils are outlined. To secure the folder check No. 5055 on the coupon and drop it in the mail.

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted here to help keep retail dealers on rotational circulation informed of new industry products, literature and services.

No. 5058—Tractor Shovel

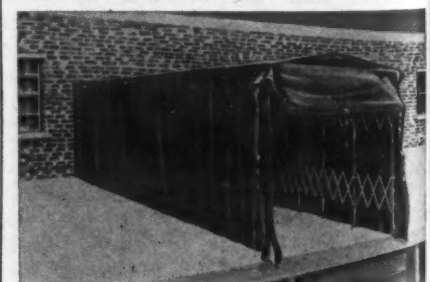
The Frank G. Hough Co. announces production of an improved Payloader tractor-shovel with bucket capacity of 1 cu. yd. payload and 3/4 cu. yd. struck load. Designated as the model HFC, it is a rear-wheel drive model and features a combination of special new transmission, plus torque-converter drive. The torque-converter is of the self-cooled, 3-element type which automatically multiplies torque output of the engine in direct proportion to the load requirements. The transmission is of full-reversing type, giving four speeds forward and four reverse up to 28 mph. To secure more information check No. 5058 on the coupon and drop it in the mail.

No. 6186—Insect Control

A new chemical combination that can be sprayed or dusted on roses to control insects and fungus diseases will be available for rose growers and gardeners for the 1955 gardening season from E. I. du Pont de Nemours & Co., Inc. Called Du Pont rose insecticide and fungicide, it succeeds the firm's rose dust based on the "Massey formula" for control of black spot and other rose diseases. The new material contains a combination of three insecticides in a low toxicity mixture, plus the Massey formula of sulfur and "Fermate" ferbam fungicide. The insecticides include methoxychlor which gives residual control of most common insects, lindane for aphid control and quick insect knock-down, and "Aramite" miticide for specific control of red spider mites. Although prepared especially for the rose grower, it can also be used on most other flowerers and ornamentals. To secure more complete details check No. 6186 on the coupon and mail it to this newspaper.

No. 3636—Loading Dock Shelter

X-Tra-Span is the trade name of a new loading dock shelter, just introduced by Atlas Industries. This model was designed for use on extra-deep loading docks, or it can be used to connect adjoining plants. It rolls on special wheels and when not



in use, folds compactly back around the shipping room door. The model is completely portable and can be moved from door to door. X-Tra-Spans can also be custom-built to any length. To secure more complete details check No. 3636 on the coupon and mail it.

No. 6184—Garden Chemicals

Its entire line of garden chemicals will appear in "weatherproof" packages, it has been announced by E. I. du Pont de Nemours & Co. Twelve of the company's garden formulations

Send me information on the items marked:

- | | |
|--|---|
| <input type="checkbox"/> No. 3636—Dock Shelter | <input type="checkbox"/> No. 6187—Leaf Spot Control |
| <input type="checkbox"/> No. 5042—Bag Opener | <input type="checkbox"/> No. 6188—Applicator |
| <input type="checkbox"/> No. 5045—Bulletin | <input type="checkbox"/> No. 6182—Drum |
| <input type="checkbox"/> No. 5055—Fumigant | <input type="checkbox"/> No. 6183—Rodenticide |
| <input type="checkbox"/> No. 5065—Bag Packer | <input type="checkbox"/> No. 6184—Garden Chemicals |
| <input type="checkbox"/> No. 5058—Tractor Shovel | <input type="checkbox"/> No. 6185—Radiation |
| <input type="checkbox"/> No. 6186—Insect Control | |

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What's Been Happening?

This column, a review of news reported in CROPLIFE in recent weeks, is designed to keep retail dealers on rotational circulation up to date on industry happenings.

U.S. Department of Agriculture revised its interpretations on the warning, caution and antidote statements required to appear on labels of economic poisons (pesticides) including herbicides, rodenticides and insecticides. . . . Crop production for 1954 listed as the fifth largest on record, despite acreage restrictions on several important crops and drought conditions over much of the nation.

Fertilizer clinic in Baton Rouge, La. stresses more profit an acre through use of more plant foods. . . . The country of Greece was granted a procurement authorization of a million dollars for purchase of nitrogenous fertilizers. . . . Production records in the sulfur industry were broken in 1954 with an over-all output of 6,600,000 long tons.

Hercules Powder Co., Wilmington, Del. reorganized its Naval Stores Department. Three new divisions were formed, to be headed by Richard T. Yates, H. M. Wendle and Donald H. Sheffield. . . . Spencer Chemical Co. named Harold E. Bingham to position of acting director of product sales. . . . S. B. Penick & Co., New York, appointed Frank Seeland manager of its Insecticide Division.

A new association to be known as the "National Nitrogen Solution Assn." was formed by group of midwestern dealers. Officers are: Wayne R. Johnson, Shenandoah, Ia., pres.; Bill Abel, Tarkio, Mo., treasurer; and John White, Auburn, Neb., secretary.

Kansas State College conference held at Manhattan pointed out that fertilizing wheat is the best and easiest method to increase yields and income. This was said to be true particularly in the eastern portion of the state. . . . An atomic energy organization, to be known as "Radiation Applications, Inc." was formed with headquarters in New York. Part of its activities will be directed toward agriculture.

A new movie, "The Big Test," produced in sound and color by The National Fertilizer Association, was unveiled to the public for the first time on Dec. 10 at the Statler Hotel in Washington. . . . The third National Agricultural Credit Conference of the American Bankers Assn., meeting in Memphis, Tenn., expressed confidence in American farming for 1955. One speaker declared that the farm economy is in "a healthy state" and that its prospects for the future are good.

The importance of good housekeeping in relation to safety in fertilizer plants was stressed at the South Carolina state-wide safety conference held at Spartanburg. . . . Cotton farmers joined the nation's wheat producers in accepting the tightest production controls permitted under federal farm law. Cotton producers in a 20-state area voted \$13,661 to 27,135 to put their stamp of approval on marketing quotas on their 1955 crop.

Robert B. Coons, vice president of American Potash & Chemical Corp. was made a director of the company. Spencer Chemical Co., Kansas City, announced that J. E. Culpepper, vice president and general sales manager, has been named a director of the company. He fills vacancy created upon resignation of J. R. Riley, Jr. recently.

The Crop Reporting Board, basing its estimate on information as of Dec. 1, said that the 1954 output of cotton would be 13,569,000 bales, or an increase of 2.7% above the Nov. 1 forecast. . . . Phillips Petroleum Co. has established the Phillips Agricultural Demonstration Project near Foraker, Okla. The project will serve to demonstrate the use of fertilizers and other agricultural chemicals.

The Entomological Society of America, meeting at Houston, Texas, brought out important discussions on chemical control of insect pests. Talks covered control of Mexican fruit fly and cotton insects. New president of ESA is Dr. George C. Decker, Illinois Natural History Survey, Urbana, Ill.

Meeting at the Jung Hotel, New Orleans, the Agricultural Ammonia Institute stressed the value of cooperation as the key to sound growth of the industry. Over a thousand persons attended the three-day sessions. Mark C. Craft, Springfield, Ill., was named president of the A.A.I.

Lawrence E. Carls was appointed advertising manager of Velsicol Corp. in Chicago. . . . A proposal for the merger of Tennessee Products & Chemical Corp., New York Shipbuilding Corp. and Devoe & Reynolds Co., Inc., into Merritt-Chapman & Scott Corp. has been set forth.

South Dakota fertilizer short course at Brookings stressed the need for application of more nitrogen to soils in that state. Over 200 were present at the fifth annual dealer's fertilizer short course. . . . International Minerals & Chemical Corp., Chicago, announced some personnel changes: Wm. Bellano was named production manager, phosphate chemicals div.; and R. L. Rhodes and H. C. Dyer have also been appointed to positions in the division.

The Ohio pesticide school, held at Columbus, attracted a large crowd and issued recommendations for chemicals to control insects, plant diseases and weeds. . . . Inland Chemicals of Canada, Inc., announced plans to offer bonds to finance proposed construction of a new sulfuric acid plant at Ft. Saskatchewan, Alta.

Final step in ratifying the proposed consolidation of the National Fertilizer Association and the American Plant Food Council was accomplished on Dec. 1 when membership of the APFC voted in favor of the move. A 36-member board of directors was named to govern the National Plant Food Institute. . . . Beltwide Cotton Insect Control Conference, held in Dallas, emphasizes need for expanded research. K. P. Ewing, USDA, said that growers are little better than holding their own against losses by cotton insect pests.

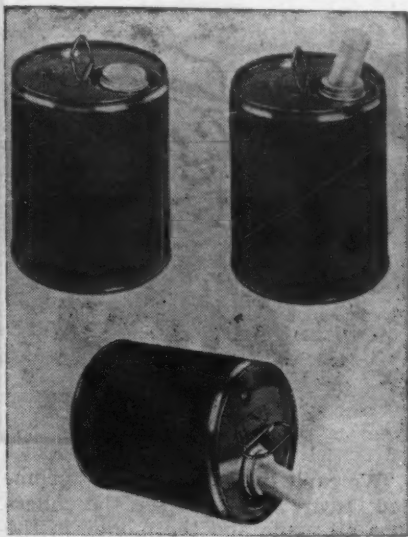
The USDA proposed regulations to be followed in obtaining certification of usefulness of pesticide chemicals. A petition proposing the tolerance, with supporting scientific evidence, must be submitted to secretary of Health, Education and Welfare; and a copy should go to the Secretary of Agriculture.

will be packaged in the weatherproof dust guns and canisters. The others are to be packed in glass bottles or weather-resistant paper bags. For the four combination insecticide-fungicide dusts, the weatherproof packages include an 8-oz. dust gun applicator package and a 1-lb. canister with a sifter top. The company's garden chemicals include insecticide-fungicide combinations, weed killers, fertilizers, aphid and mite spray and fungicides. To secure more complete details check No. 6184 on the coupon and mail it to this newspaper.

No. 5065—Bag Packer

A new, smaller bag packer is now available from the H. L. Stoker Co. Extensive tests in commercial operations on this bagger, called the Econo-speed model 54, have been very satisfactory, company officials said. The packer fills valve or open-mouth bags and drums. It is said to deliver 1 cubic foot in five to 10 seconds, depending on the material handled. Delivered as a complete package, it merely has to be plugged in to the electrical circuit to operate. It is designed to handle practically any powdered or granulated material such as sulfur, clays, rosin, some plastics, titanium, alfalfa meal, insecticide dusts, certain fertilizers and

of products where smaller quantities are required. The new drum is a sturdy, standard ICC-17E container, round in shape with welded side seams and double-seamed ends. The top is necked in to provide for con-



venient stable stacking, and has a carrying handle and recessed 45 mm screw cap — pouring spouts, either plastic or metal, available. The interior of the drum has a successful non-toxic, chemical resistant hi-bake lining, with additional interior linings for other products supplied upon individual requirements, packed in cartons. For further information, check No. 6182 on the coupon and mail it.

No. 5042—Bag Opener

The R & M Products Co. offers a new combination knife-file bag opener which is said to open as many as 10 bags a minute. A flick of the wrist opens any bag of feed, fertilizer, flour or chemicals, without damage to bag or loss of time, claims the company. Made of high grade steel with an attractive handle and packed with instructions (copyrighted) for using,



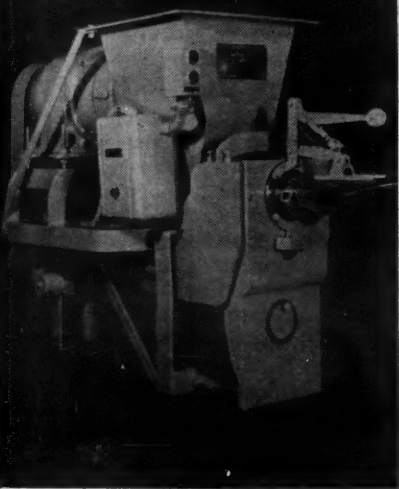
it can be used as a key chain for pocket or hand bag and is useful for cutting, sewing or a nail file. The company title can be imprinted, if desired. Quantity prices will be quoted by the company. To secure more complete details and price information check No. 5042 on the coupon and drop it in the mail.

No. 6185—Radiation

Radiation Applications, Inc., has issued new literature on the potential use and effects of radiation in insecticides. The firm states in its literature that radiation has already been employed to kill insects which infest grains, to produce disease resistance in growing crops and to alter physical properties and chemical reactions. The material explains how the company's consulting service and publications can assist the farm chemical industry in its radiation research problems. To secure the literature check No. 6185 on the coupon and mail it to this newspaper.

CORN CHAMPION

LEXINGTON, KY. — Willis Chapman, champion corn grower in Ohio County, Ky., had a yield of 115 bu. an acre.



many other hard-to-handle materials. For more complete details check No. 5065 on the coupon and drop it in the mail.

No. 6183—Rodenticide

The Amburgo Co., Inc., has announced the addition to its lines of a product called by the trade name, Ambur-Kill, an anticoagulant rodenticide with Warfarin. It is said to contain a special appetite stimulant ingredient, A.S.I., developed by the company to make it appealing to rats and mice. The company states that a safety factor is provided in that small repeated doses would be necessary before it could cause death among domestic animals or human beings. Also, it is said that this type of bait is not usually carried away by the rodents. The product is available in either concentrated or ready-to-use form. The concentrated form can be mixed with cereal-type baits while the ready-to-use form offers convenience to the smaller users. For further details check No. 6183 on the coupon and drop it in the mail.

No. 6182—1-Gallon Drum

Now available from stock in small or large quantities is a new 1-gallon tight head drum incorporating all the features of standard-size containers, announces the Vulcan Stamping & Mfg. Co., Inc. Answering the demand for smaller, easier-to-handle shipping and dispensing containers, this 1-gallon drum will be available with either a regular interior coating or a hi-bake lining for dangerous and "hard-to-hold" products. The 1-gallon drum meets the demand for shipment

Better Selling

Richer Sales Fields for Dealers



There was a roaring blizzard through the countryside which kept business pretty much at a standstill at the fertilizer store of Schoenfeld & McGillicuddy. The two partners, Oscar and Pat, had current work pretty well caught up, and each wondered how he could appear busy without giving away the truth that each was just fiddling around until closing time.

The desks of the two men were back to back, so that they faced each other. Oscar's desk as always was orderly—all surplus material removed from it. It also contained six, freshly sharpened pencils in a row, a goldfish bowl half filled with retrieved paper clips and a small box of salvaged rubber bands.

Pat's desk, on the other hand, was quite cluttered with magazines, folders, sales material, notebooks, photos and other things. The top of the old fashioned safe behind Pat, too, was stacked with things he had placed there—to be sorted and thrown away some day.

Once Pat had tried to clean his desk, and he did. For a half day it was as shining and bare and orderly as Oscar's. But gradually habit reasserted itself, and the bare desk top area receded every day until once again, the familiar mounds appeared and stayed there.

Suddenly Pat began to whistle gayly, much to Oscar's annoyance. Then Pat piled the material higher on his desk, until he had cleared a large space. Next he brought forth a large sheet of paper, the size of a newspaper page, a stack of photographs and began laying out an ad. From the gay whistle, it was evident that Pat had an idea.

Oscar looked at the size of the paper before Pat, then frowned. "An ad? That big?"

Pat stopped whistling. "Why sure. It doesn't pay to take small space all the time. If you've got a good idea, play it up."

"It takes big checks to pay for

big ads," Oscar retorted coldly. "A big wind soon dies down."

Pat grinned at this sally. "I'll draw up the ad the way I'd like it; then we'll talk about size and cost."

"Our contract rate calls for \$72 a page now," Oscar said, always a whizz at figures. "A quarter ad looks just as good, and costs much less. Besides it's tax time. Farmers are sick with expenses and got a belly-ache over low prices. They won't look at ads now."

Pat laid down his pencil. "All right, Oscar," he said gently. "If things are as bad as that let's just lie down on the floor and die—right here. What's the use of living?"

"Are you crazy?" Oscar asked. He had no sense of humor. "I was only trying to see things as they are. Nobody's foolin' me."

"I guess not," Pat said dryly, sketching in a headline for his ad. "Remember this, you and I have a big investment in this business, and if we don't do something to get business the investment will dry up and we'll be out of business. We can't always sit here and wait for business to come to us. We've got to do something to get out and create business, to make farmers want to buy. If we don't we're sunk."

"I believe in layin' low during tax time," Oscar said stubbornly. "Why sell more now; let's collect what's on the books first."

"We'll try to do that," Pat said, "but at the same time we are collectin', we've got to sell enough new business to make a profit for the month, too. I believe in doing two things, not just one. Farmers may be worried about taxes—who isn't, but every farmer knows he's got to stay in business, that within a month or so he's gotta buy fertilizer and spread it, seed and plant it, chicks and feed 'em. Let's get 'em thinkin' of comin' here first—not to go somewhere else."

"We can't live on promises," grumbled Oscar. "I like to see the collections all made and the money in the bank."

But Pat evidently had not heard this last remark. "Now, this full page ad," he said thoughtfully. "Good thing I took so many pictures of us hauling fertilizer to customers and of our spreader at work on the fields. They Bought More Fertilizer and Profited. That's my headline, Oscar."

Then Pat went on to tell Oscar how the copy would read, "Here's one of our trucks taking a big load of fertilizer to Pete Andrae's farm last spring. He bought nine more tons of fertilizer last year than the year before. His corn yield was one of the highest in the county."

Pat also detailed more case histories, all just as good, all keyed to stimulate more fertilizer buying. He wound up contemplating using 10 photos in the ad.

"Ten pictures!" groaned Oscar. "Those cuts will cost a fortune."

"Not today," Pat said. "With this new plastic engraving idea newspapers are using, cost of cuts is way down, within our reach. Pictures catch attention. And for any farmer who places an order for 10 tons or more of fertilizer by Feb. 15, we will offer to spread the entire tonnage for 25¢ an acre instead of 50¢."

Oscar gasped. "By this time I know what to expect," he said bitterly. "You never go into a business deal without giving something away."

Pat shook his head. "Oh, no, Oscar. Maybe it looks like I'm giving something away at the time, but you've got to give a little in this life before you get something. If we didn't get more than we give in this business, how come you and I are both able to take a pretty good monthly drawing account out of this business and split a profit melon each year? Think that over."

And Oscar did. In fact, it was a very puzzling thought to him. He would have to ask Minnie, his wife, about it. Maybe she could enlighten him on this seemingly unorthodox business practice.

U.S. Soil Can Feed A Billion, Editor Says

NEW BRUNSWICK, N.J.—American agriculture must increase its output to take care of 50 million more persons by 1975, Dr. Firman E. Bear, editor of Soil Science, told the graduating class of 52 students of Rutgers University's short courses in agriculture recently.

Dr. Bear said that he is confident that the soil of this country is capable of feeding a population of a billion persons.

"We can expand horizontally by draining swamps, leveling land and cultivating further up the mountain-side," Dr. Bear said. "Vertical expansion can be achieved by increased production to the acre—100 bu. corn, 500 bu. potatoes and 10,000 lb. milk per acre."

Recommendations Listed For Fertilization Of Winter Pasture

COLLEGE STATION, TEXAS—Getting good winter pastures from small grain requires more than just putting the seed into the ground, says M. K. Thornton, Texas A & M extension agricultural chemist.

Plenty of the right kind of fertilizer will increase the value of the pasture and return the cost of the fertilizer several times. In the East Texas sandyland soils, Mr. Thornton recommends 300 lb. per acre of 5-10-5 or 4-12-4 to the field at planting time, then 40 lb. actual nitrogen as side dressing. Another side dressing of the same amount is recommended in the spring.

In the Blacklands of north and central Texas, 40 lb. nitrogen is recommended.

Texas Group to Study Wind Erosion

LUBBOCK, TEXAS—A committee appointed by the Texas Association of Soil Conservation Districts recently met in Lubbock to formulate a plan to combat wind erosion in West Texas.

The officials said they hoped that a concentrated effort by government and state agricultural agencies and landowners could devise methods to successfully bring blowing losses to a standstill. They pointed out that such erosion was a costly loss if allowed to continue.

Agencies represented at the meeting were Soil Conservation Service, Extension Service and Experiment Stations, Agricultural Stabilization and Control Board, Farm and Home Administration and Texas Technological College.

Because of clean-till crops and the long drought, soil losses have increased during the last three years. Much land in the sandier sections has been permanently damaged, and even some irrigated land blew during the spring months.

Mexicans Advised On Bollworm Control

EL PASO, TEXAS—The Mexican Agricultural Department is urging Mexican farmers to plow their cotton land deep and winter irrigate to combat the increasing numbers of pink bollworms.

Unusually heavy damage occurred in several Mexican Communities along the Rio Grande River. In the Juarez area across the river from El Paso, 163 bu. gin trash inspected revealed the astounding number of over 173,000 pink bollworms.

The survey which covered parts of Mexico, Texas and New Mexico showed a spotty pattern of infestation. Some communities took a beating while others escaped with no apparent damage. In Chaves County, N.M., only 282 worms were found in 106 bu.

The average damage over the area was a little greater than in 1953 but was still under that of 1952.

HIGH PEANUT YIELD

GAINESVILLE, FLA.—One Alachua County, Fla., farmer harvested an average of 2,508 lb. Early Runner peanuts per acre on a planting of 25 acres this year, according to Loomis Blitch, county agent. In reporting this high yield, he adds that "the average yield of peanuts per acre has been increasing yearly in Alachua County during the past decade—the result of using improved varieties, better fertilization, and planting the crop on land where a cover crop of lupine has been plowed under."

SOILS and FERTILIZERS

Fourth Edition

By FIRMAN E. BEAR, Research Specialist, New Jersey Agricultural Experiment Station.



1953. 420 Pages \$6.00

In plain language, this new edition tells how recent modern advances in soil technology affect plant growth and annual yield . . . and how the effective use of basic methods can increase the productivity of farm lands. New facts, accurate figures, and 66 pointed illustrations show the relation between crops and soils.

Covers in detail: soil chemicals . . . important soil elements such as nitrogen, phosphorus, calcium . . . yield prospects of crop plants . . . moisture control . . . soil management . . . mechanical operations . . . soil conservation . . . organic matter maintenance.

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FARM SERVICE DATA

Extension Station Reports

The U.S. has only 2 1/4 acres of cultivated cropland per person today, compared with 3 1/4 acres at the close of World War I, according to U.S. Department of Agriculture estimates. By 1960 there will be less than two acres per person and this ratio will get smaller as the years go by.

Meanwhile, the nation's population is increasing at the rate of 2 1/2 million a year. Continued at the present rate of increase, there will be more than 200 million people in America by 1975.

Feeding this steadily expanding population will involve getting higher crop yields from every acre under cultivation. Farm economists believe this can be accomplished by the increased use of fertilizer and better soil care. Studies by the National Soil and Fertilizer Research Committee indicate that the nation's corn and wheat production could be doubled with reasonably good management and the use of heavy amounts of fertilizer.

Hay and pasture yields could be boosted by 100%, and soybean production could be increased by at least one fourth.

How farmers let animals graze winter pastures will have a lot to do with how valuable the pastures will be in furnishing feed. John F. Shoulders, associate agronomist at Virginia Polytechnic Institute, says there are a few rules to follow to insure higher yields.

Graze rotationally. Divide the pasture so a part of it can be grazed while the rest recovers.

Keep heavy animals off the pasture when it is too wet for the sod to hold them.

Save a part of the field to graze when the weather is too cool for the mixture to grow, or to give you some very early spring grazing. If the small grain begins to joint this fall, graze it to reduce winter-killing.

Topdress winter pasture with from 30 to 40 lb. nitrogen per acre in January or February to increase spring growth.

This year's drouth had little or no effect on several sweetclover varieties grown in Arkansas for forage. This is additional evidence of the ability of sweetclover to withstand severe dry weather, according to agronomists at the University's Agricultural Experiment Station.

This finding originally came to light unexpectedly during the 1952 drouth when several varieties of red and sweetclover were planted for other test purposes at the agricultural Experiment Station farm. Although the planned test failed because of the extreme dry weather, out of the failure was born the knowledge that certain sweetclover varieties could hold their own when other forage was fatally suffering from lack of water.

Carrying on with the findings accidentally brought to their attention, agronomists reseeded again in 1953 with seven varieties of sweetclover, and carefully observed the second year development of the 1952 crop as well as the 1953 planting. And again during the even more severe drouth years of 1953 and 1954 the sweetclover prospered, especially the Spanish, Wisc. A-46 and Evergreen varieties.

Willamette, Common White, Common Yellow and Madrid were other varieties planted in the 1953 test. While they produced lower yields of forage than the first three mentioned varieties, Common Yellow and Madrid matured two weeks earlier than any of the others, and a month earlier than Evergreen.

Buying fertilizer now for the 1955 crop season and storing the plant food on the farm over the winter has these advantages:

1—Farmers get the best fertilizer available. During December, January and February, manufacturers have more time to age, cure and condition the plant food. So farmers get the

best handling product it is possible to make.

2—Farmers have their choice of the exact grade and amount they want. They avoid the risks of the spring rush season when everybody is trying to buy fertilizer. At that time, demand is often greater than the supply and particular grades of fertilizer may be hard to get. This has happened in the past several years. Some of the latecomers got only a small choice of fertilizer that hardly had time to cure.

3—Fertilizer bought now saves time next spring. The plant food is on hand, ready to use.

Downy mildew is a troublesome disease of cabbage, but it can be controlled with some of the modern fungicides. To control the disease on heading cabbage, spray with nabam or 50% chloranil, or if a dust is preferred, use a 5% chloranil or 6.5% zineb dust.

For a nabam spray solution, mix 2 qts. nabam, 1 lb. zinc sulfate and 100 gal. water. For chloranil solution, mix 2 lb. 50% chloranil and 100 gal.

water. Use 100 to 150 gal. of either spray or 30 to 35 lb. of either dust an acre.

Treatment of plants should begin from one to three weeks before harvest, depending upon the severity of the disease. Treatments should be repeated every 6 to 7 days until all heads are cut for market, according to the Florida Agricultural Experiment Station, Gainesville.

Despite drouth, farmers in Trimble County, Ky., seeded new pastures and improved old ones, according to Millard R. Maxey, county agent.

Gayle Rodgers established 13 acres of permanent pasture on hill land. He seeded fescue after applying 400 lb. 3-12-12 fertilizer an acre, plus superphosphate and ammonium nitrate. C. D. Watson seeded 18 acres to ladino and red clover, orchard grass and timothy. On this land he used 500 lb. 4-16-16 fertilizer, 100 lb. ammonium nitrate and 150 lb. 20% superphosphate an acre. Lewis Garriott has 25 acres of orchard grass, timothy, korean lespedeza and ladino clover. He used 5-10-15 fertilizer.

Now Available!

AMNICAL

(AMMONIUM NITRATE LIMESTONE)

20.5% Nitrogen Double Duty Plant Food

Made in Italy

AMNICAL contains 20.5% nitrogen which will result in higher-than-ever yields of protein rich crops of all kinds.

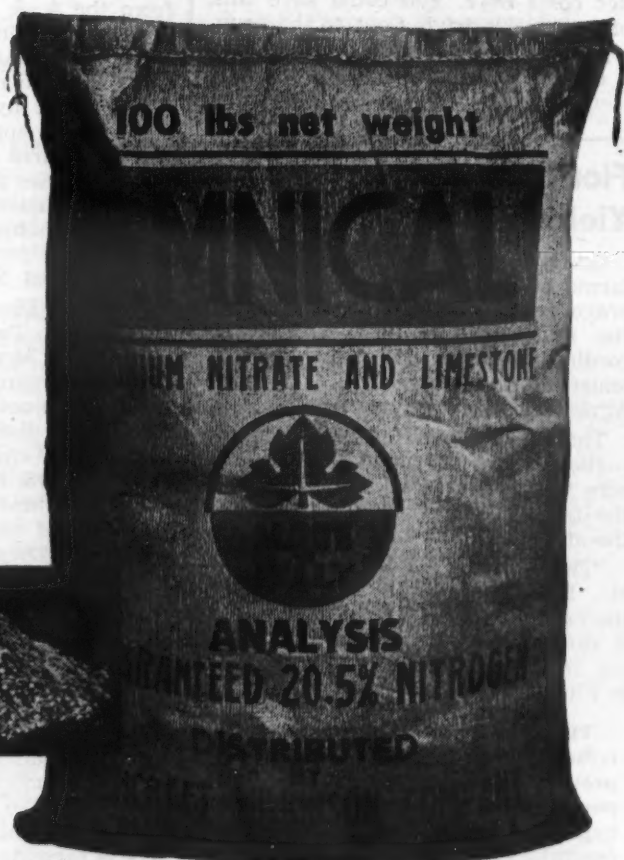
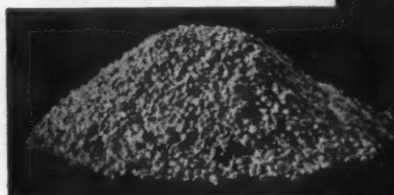
AMNICAL contains about 40% Calcium Carbonate with Magnesium Carbonate.

AMNICAL'S nitrogen is in approximately one-half nitrate form making it quick-acting and immediately available to growing crops.

AMNICAL'S nitrogen is in approximately one-half ammonia form—resistant to leaching, slow but steady-acting, gradually feeding the crop throughout the entire growing season.

AMNICAL'S white color is your guarantee of the purity of the raw materials employed in its production.

Amnical is manufactured in a solid white pellet form to assure easy handling, free flowing, and resistance to moisture.



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Better Selling

Richer Sales Fields for Dealers



SHOP TALK

OVER THE COUNTER

FOR THE DEALER

By EMMET J. HOFFMAN
Merchandising Editor

Who gets the food dollar?

That question is a favorite conversation piece these days and what dealer isn't confronted with it several times every week?

"The Quaker," a publication of the Quaker Oats Co., has some interesting observations on this topic. It provides some facts with which the dealer can arm himself when he finds himself in the middle of this type of discussion.

Everybody blames everybody else for high food prices. City dwellers think the farmer gets too much. The farmer thinks the grocer gets too much. But few people know who really gets what. The

National Grange and the Grocery Manufacturers of America have been studying "spread"—the difference between what the farmer gets for his goods and what the housewife pays. They found out a lot. For example, half of the entire "spread" goes for wages and salaries.

"Of every \$1 you spend for food at the corner grocery, 45¢ goes to the farmer. This pays for seed, hired help and other production costs, plus the farmer's 'pay' for his work.

"Wages take 27½¢, divided among all food processors, grocery clerks, freight loaders, cannery workers, warehousemen, etc. You could save this, too, if you milled your own flour, baked your own bread, butchered and cured your own meat, and otherwise did all your own work.

"Miscellaneous costs of grocers and food processors including rent, depreciation, operating costs, packaging materials and taxes with the exception of income taxes—amount to 14¢. Sure, you could save some of this if you could do all your own processing. Even so, you'd still have to spend something for packaging, refrigeration, storage space and so on.

"Transportation from farm to market costs 6½¢. You could save this, of course, by driving out to the country to pick up a bushel of wheat, or a case of eggs, or maybe a live pig.

"Federal income taxes take 4¢,

Florida Cotton Yields Set Record

GAINESVILLE, FLA. — Florida farmers produced the highest average cotton yield in the history of the state in the 1954 season, according to Russell Henderson, agronomist of the University of Florida Agricultural Extension Service.

The average yield of 299 lb. of lint—about three fifths of a bale—per acre this year was 22 lb. higher than the former record average yield for the state in 1952.

"The average yield for this year," Mr. Henderson said, "is still below the average of other states, but it shows that farmers are progressing in the production of this crop in Florida."

The Extension agronomist attributed the record yield to improved fertilization, cultural, and pest control practices, planting of improved varieties and weather conditions which were not as favorable for boll weevils and other pests as in past years.

The production figures announced by Mr. Henderson and the U.S. Department of Agriculture pertained only to upland cotton, which is grown in 30 counties.

paid by food processors, distributors and retailers out of your food dollar. (There are dozens of additional indirect taxes which you also pay with part of your consumer dollar.)

"Only 3¢ profit is left for the owners of the canning and processing factories, wholesale distributors and grocers. And out of this 3¢ must come money for research and plant expansion to create new jobs."

Texas Youth Raises 200 Bu. Corn Yield

COLLEGE STATION, TEXAS — Doyle Turner, Lamb County, Texas 4-H boy, not only won top honors in the 1954 Texas Hybrid Corn Production program but set a new all-time yield record in doing it. His Texas Hybrid 30, under irrigation, made a whopping 204.3 bu. an acre. This compares with a state average of 16 bu. an acre.

The program is sponsored by the Texas Certified Hybrid Seed Corn Growers Assn. E. S. Fry, San Antonio, is president; M. D. Lacy, State Department of Agriculture, Austin, secretary-treasurer of the association and W. B. Coke, extension agronomist supervised the program.

Doyle irrigated his crop four times. He followed the recommendations from the A. & M. Soils Testing Laboratory by using 200 lb. 16-20-0 fertilizer at planting time. A side-dressing of nitrogen was also recommended but by date Doyle planned to make the application, the corn was too tall. Three tons of composed cotton burs were plowed under 12 inches deep in January and he spaced the plants 13 inches apart in the row.

TAKES NEW POSITION

ST. LOUIS — The appointment of William B. Toulouse as advertising manager of Monsanto Chemical Company's Inorganic Chemicals Division, has been announced here by Tom K. Smith, Jr., division manager of marketing. The change became effective December 15. Mr. Toulouse, who has been assistant to the advertising manager of the company's Organic Chemicals Division, first joined Monsanto in 1952.

MAN OF THE YEAR

CLEMSON, S.C. — The 1954 "Man of the Year" to South Carolina Agriculture, named by the Progressive Farmer magazine, is Thomas W. Morgan, assistant director, Clemson Extension Service. His selection was based on the contribution he has made in helping to develop a balanced type of farming in a period of change and adjustment.

NEW FIRM

RICHMOND, VA. — Southern Farm Supply, Inc. has been incorporated here, with A. N. Hofmeyer as president.

Effective Action in Collecting Accounts Receivable

By AL. P. NELSON
Cropolife Special Writer

When the farm supply dealer discovers that the total volume of his receivable accounts is increasing month to month, and when he discovers that the number of delinquent accounts is increasing, what can he do about it?

In the first place, he can tackle the problem all by himself, it is true, but he is neglecting an opportunity if he fails to go to see his local banker and talk over the situation with him. The dealer should not let pride deter him from this action; the banker is there to serve him in financial matters, and he usually gives such valuable advice without charge—especially when the dealer has an account at the bank.

The dealer owes it to himself to make up a list of delinquent accounts on a separate sheet of paper and to date the age of each account. Then he should also make another list of accounts which used to pay in 30 days and which now are paying in 60 days or more. Armed with these two separate lists, he is in excellent shape to visit his banker.

First, let him explain to the banker that collections are slower. The banker will agree, perhaps, saying that most retailers are finding this to be the case at the moment. What to do? The banker declares that the wise thing is to encourage more cash sales through sales promotion, combination offers, etc., or perhaps a discount for cash purchases over credit purchases.

He will also advise a more careful supervision of credit; not to grant credit until an application has been filled out and the references consulted. He will point out that this procedure protects the dealer considerably, for he will not grant credit to a farmer until he is assured that the farmer can and will pay because he is meeting his obligations elsewhere.

Credit Application

The credit application form, the banker will also tell the dealer, shows the credit applicant that the securing of credit accommodations at a store is a serious, financial matter, governed by regulations which the applicant is expected to live up to. This makes him resolve to meet his credit obligations on time. If credit is granted too easily, the farmer may think he can let payments slip by for one, two or more weeks, without anyone becoming concerned about them.

The dealer can then show the banker his list of farmers who have been paying within 30 days and who now are 60 days behind on payments. The banker may spot some weak credit risks on that list and advise the dealer to make extra collection efforts in these instances. With this advice, the dealer knows where he stands.

It will be the same with the delinquent list of customers who are 60 to 90 days overdue, some of whom haven't been in the store for many months. The banker will usually advise prompt, followup action on such accounts. He may even be able to advise the dealer what to do to collect in some instances.

While the dealer is thus talking about collections, he may be able to arrange with the banker to make short term loans to finance his business until collections come in more steadily, loans which will enable him to get a 2% cash discount on many of his bills. By taking 2% cash discounts, the dealer will often more

than pay for the interest on the short term bank loan and have a small profit left besides, especially if he can hurry up those collections through prompt action.

Credit Bureau

If the dealer wishes, he can also approach his local credit bureau. Most such bureaus cover one or two counties and know the credit of just about every resident in considerable detail. If the dealer is a member of such a bureau, he can show the manager his list and get up to date information on the credit standing of each, a standing which may have changed within the past 30 or 60 days. Armed with such information and credit bureau advice, the dealer may be able to visit certain delinquents with an approach which will meet the collection problem and handle it adequately.

In other words, when the dealer faces his collection problem, especially in a small town area, there are ways to find out why farmers are delinquent and whether they are delinquent with many other merchants in the town. The dealer can easily do some investigation on local level which will give him valuable information before he begins to collect the first account. There is no need for tackling this problem in the dark. Know what the situation is before you begin collecting, and know through your banker and credit bureau, that what you contemplate doing is the best thing to do at the time.

I know one dealer who places a list of delinquent accounts on his desk on the 10th of each month. The day as payments come in, he crosses off those who have paid, and the amounts. By consulting this list every day, he keeps up with the situation and is prompted to act on the accounts when they need it. No dealer's delinquent list is so long that it cannot be typed on one or two sheets of paper and be kept handy on the desk until they are all paid.

Call-Back Dates

Call-back dates are noted on the sheet by this dealer, and by consulting the list daily he never misses those call back dates. There are only a few to make each day or week and he reports that he is able to keep that delinquent total list down to safe proportions most of the time.

The dealer who devotes only a few days each month to his delinquent accounts—especially a few days after the 10th—is most likely to find that he has permitted other business matters to take the upper hand until the 10th of next month rolls around with the delinquent list growing to the time.

As one wise dealer told me, "There's a world of difference between money on the books and money in the bank. You can do business on money you have in the bank, but not very much business on what money is on the books."

"Money on the books" for a dealer is like ripe grain in a farmer's field with a terrific hailstorm approaching. The harvest is not certain until the grain is safely in the barn.

SOILS CONFERENCE

JOPLIN, MO. — The thirty-first annual soils and crops conference, Lawrence County, Mo. will be held Jan. 12 at Mount Vernon.

FARM LEGISLATION

(Continued from page 1)

The new Senate Agriculture Committee chairman is said to contemplate the forthcoming session as sterile as far as new farm legislation is concerned, particularly on the highly controversial issues such as the price support standard. He is said to have expressed doubt that even the Democratically-controlled Senate would pass a high price support amendment to the farm law this coming session. According to Sen. Ellender, even if it did such a bill would run into a presidential veto which could not be upset in the Senate.

While Sen. Ellender has within his own party some vocal and influential advocates of a return to a rigid high support program for the basic commodities and a resumption of a higher level of support for dairy products (among them being the Democratic farm bloc leader of the Senate, Richard Russell of Georgia, and Hubert Humphrey of Minnesota) it is improbable that the Louisiana senator will let them dominate his rule of the Senate Agriculture Committee.

However, Sen. Ellender may embark on some investigatory diver-

sions in the farm field, possibly on warehousing practices. Thus far the Senate Agriculture Committee has refused to be taken in by the perennial witch-hunt for the culprit in the spread between the farm price and the cost to the consumer. The last Senate excursion into that field came with another committee under the chairmanship of former Sen. Guy Gillette (D., Iowa).

In the House the situation is somewhat different. That group, facing election every two years—and some of whose agriculture committee members felt the cold breath of reduced pluralities in the last election—are sensitive to the Benson farm program goals. The House Agriculture Committee may go through the motions of pushing through a revision of the present flexible price support bill.

The issue could arise abruptly as soon as Congress convenes since the 83rd Congress ordered the secretary of agriculture to give it in January, 1955, a new dairy price support program. This problem is one of the most complex of all the individual farm commodity problems.

New Sulfur Recovery Process Reported

NEW YORK—Economic recovery of sulfur deposits previously deemed uneconomical is now possible with a new method, called the Fluo Solids Process, according to a report presented at the American Institute of Chemical Engineers annual meeting here Dec. 15.

R. B. Thompson and Donald MacAskill of the Dorr Co., Stamford, Conn., said the process "in effect increases the national resources and insures a continuous and economical supply of sulfur as well as sulfuric acid for both government and industry."

Wheat Fertilization

STILLWATER, OKLA.—The response of wheat to fertilizer was very good last year in most sections of Oklahoma, according to Oklahoma A & M College. In the northeastern section of the state, an average of the college's demonstrations showed \$5 returned at harvest for each \$1 invested in fertilizer. In the central section the return was \$5.60, and in the western section the average return was \$5.30 for each \$1 invested in fertilizer.



W. H. Barrows

BECOMES DISTRICT MANAGER—W. H. Barrows has been appointed New England district manager by Arkell & Smiths, manufacturers of multiwall and specialty bags. Mr. Barrows, formerly a sales representative in the New England area, is a graduate of the University of Maine. He will make his headquarters in the Statler Office Bldg., Boston.

Herbicide Studies Being Set Up at West Virginia

MORGANTOWN, W.VA.—Agronomists at the West Virginia University Agricultural Experiment Station are now setting up a new phase in the study of chemical weed control to deal with the effect of soil acidity, moisture, and texture upon the performance of three herbicidal chemicals, 2,4-D, Dinitro's and CMU.

The studies will be conducted in the University greenhouse under constant temperature and humidity conditions. Crop plants used for the study will include corn, soybeans, and tomatoes. Weed plants will be lambsquarter, ragweed, and pigweed.

In setting up the study, the agronomists will prepare flats of soil with various textures, moisture levels, and acidity levels from pH 5 to pH 7. The crop seeds and the weed seeds will then be planted and pre-emergence applications made. A control flat, which will not be sprayed, will also be a part of the experiment. Each treatment will be evaluated according to germination and seedling vigor observations.

Information derived from this study will enable the agronomist to make recommendations more accurately as to chemicals to be used and the best rates of application. This phase is designed to be terminated in two years.

Large Fumigation Job Completed

SACRAMENTO—Del Paso Enterprises, Inc., of North Sacramento, Cal., has completed what is believed to have been the largest grain fumigation job ever undertaken in the West.

A San Francisco firm of fumigation engineers used 4,000 lb. liquid methyl bromide to treat 32,000 tons of barley stored in the company's 250,000 cu. ft. warehouse in North Sacramento.

The chemical was applied through the roof of the hermetically sealed building.

TOP HYBRIDS

COLLEGE STATION, TEXAS—Texas hybrids 26 and 28 made the highest yields this year in the Texas corn performance tests.

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Since the introduction of anhydrous ammonia as a commercial fertilizer, Beaird engineers have worked closely with the industry to develop special equipment for handling this nitrogen-rich liquid fertilizer. Behind the Beaird line of anhydrous ammonia equipment is the experience of thirty-six years in manufacturing pressure storage vessels for the petroleum and chemical industries.

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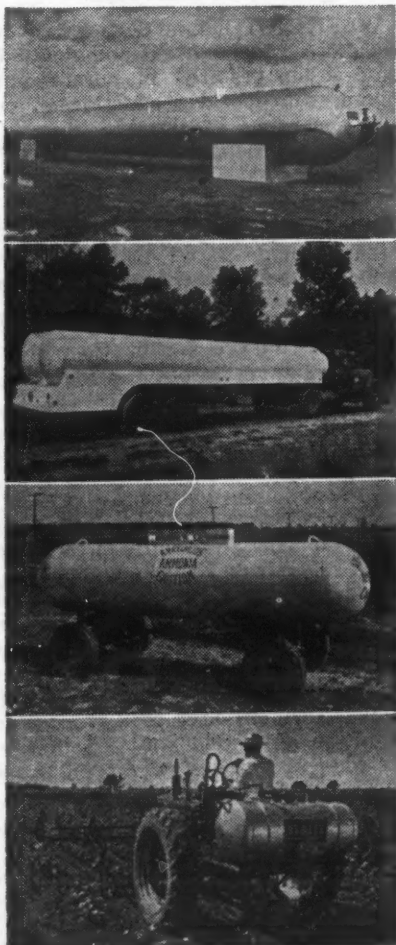
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WORLD REPORT

Industry News from Everywhere

By GEORGE E. SWARBRECK
Croplife Foreign Office Manager

A British government body has been hearing the story of the discovery of DDT. For some years now, the Royal Commission on Awards has been meeting in London at periodical intervals, under the presidency of a judge, to determine those to whom awards should be paid for their work in inventing or discovering something that aided the successful prosecution of World War II. One of the highest payments authorized was in the region of \$300,000 to the inventor of jet propelled aircraft. Smaller contributions earn smaller awards.

Now the discoverers of DDT have staked a claim. J. R. Geigy, S.A. of Basle, Switzerland, and the T. Geigy Co., Ltd., of Manchester, Eng., appeared before Lord Justice Cohen to press their case, aided by attorneys.

The commission was told that the patents were shared by the two firms.

In 1932 the Geigy company started research with the object of discovering an antimosquito specific. About 1936 Dr. Muller began research for the company in an effort to find a specific for the Colorado beetle. At the end of 1939 he was successful, and the material was DDT.

In 1942 it became clear that DDT had an extraordinary controlling effect over lice and mosquitoes and the British armed forces in northern France were either provided with impregnated shirts or with a supply of DDT powder.

At the end of the first five weeks an investigation showed that infestation had been reduced to as low as 0.6 in 100,000.

Considerable evidence was brought forward in support of the claim and at the end of a three day hearing this commission adjourned. The decision will be announced in due course.

World Nitrogen Trade

The British Sulphate of Ammonia Federation reveals that the world trade in nitrogen showed further expansion in the year ended June 30, 1954.

Production rose by 11% to 6,861,000 metric tons and consumption by 13%. Industrial usage went up by 22% and agricultural by 11½%. The federation states that the increase in consumption since 1945 has been continuous and unchecked by the temporary recessions of earlier years.

The output of nitrogen products in the U.K. in 1953 was reported up 6%. Producers' deliveries against sales in the fertilizer year ended June 30, 1954, increased by over 11,000 long tons nitrogen to an all time high of 242,553 tons over the preceding year. The federation believes that consumption was close to deliveries.

On the export side, shipments of sulfate of ammonia by U.K. firms dropped by one third to 299,000 tons from the 1952-53 level. However, the federation sees no cause for alarm in this result because the high level recorded in 1952-53 was exceptional.

Philippines

The production of ammonium sulphate in the Philippines amounted to 29,593 metric tons in the 1953-54 fiscal year, according to official sources.

The Philippines has only one fertilizer plant and this began producing in September, 1953. It is owned by the government's National Power Corp.

The annual capacity of the plant is estimated at upwards of 52,000 tons a year but it is planned to up this to 75,000 tons in due course. Sugar and rice growers are the

main users, and the potential demand is assessed at 90,000 tons a year.

The availability of the local supply has resulted in a dip in imports. Fertilizer requirements from overseas totaled 134,745 tons in 1952-53, but last year these were cut back to a little over 113,000 tons.

Israel Progress

Recent reports of the progress made by the Israeli fertilizer industry have been confirmed by a report issued by the Jewish agency's Economic Department in New York.

Fertilizers and Chemicals, Ltd., has added a three unit plant which is starting the manufacture of phosphoric acid, dicalcium phosphate and potassium sulfate. The company will be able to produce single, double and triple superphosphate.

The annual productive capacity of the dicalcium phosphate plant is estimated at 10,000 tons and that of the potassium sulfate plant at 12,000 tons.

Scheduled for completion next May by the same company is an ammonia plant with an annual capacity of 14,000 tons and an ammonium sulfate plant with a potential offtake of 40,000 tons. Cost of this project is assessed at \$3.5 million.

Officials expect that 30% of the company's total production will be available for export.

Work on the three new plants of the Makhteshim Chemical Works, Ltd., at Beersheba, in the Negev (Croplife Dec. 20, page 18) is progressing. This company will use chlorine as the basic material for insecticides, fungicides and herbicides. The company opened a \$1.7 million chlorine plant at Beersheba last summer.

Currently Israel has to import these plant protectives, and the new plant will cutback the need for foreign supplies appreciably, if not completely.

Belgian Report

A spokesman for the Union Chimique Belge of Ostend has voiced complaints about low selling prices in the Belgian fertilizer market, though he adds that sales volume is satisfactory. Forward bookings extending well into 1955 have been made.

The company expects that it will be able to reduce its production costs if the government is successful in its plan to slash the price of coal through the operation of the projected European coal-steel plan. Coal represents a quarter of the company's manufacturing expense, and relief will strengthen the company's competitive position.

The company is constructing an ammonia and ammonium sulfate plant for the Pakistan Industrial Development Corp. and work is reported as proceeding on schedule.

Seed Treatment Gives Good Results In Canada Trials

TORONTO — Numerous Canadian farms became part-time experimental stations this year by participating in on-the-farm comparisons between untreated seed and seed treated with mercurial fungicides.

Results of the trials, instituted by Du Pont of Canada, have now been tabulated by the company's agronomists. Results have encouraged the company to announce that this method of field testing under actual farm conditions will be carried out on a nation-wide scale during the next crop year.

Alfalfa and clover were subjects of the pilot tests conducted this year. Other seeds, including wheat, oats, rye, barley, soybean and flax will be used in the enlarged program planned for 1955.

In each experiment, comparable plots were planted with the same amount of treated and untreated seed. When the plants had reached maturity, an actual stand count was made in each section. A two-foot diameter hoop was tossed out at five random locations in each plot; all plants found encircled by the hoop were then counted.

When the results were tallied, it was found that the sections planted with treated seed yielded greater stands than those produced by untreated seed. Differences as high as 100% were recorded. Plants from the treated sections also appeared to be of higher quality.

Top grade seed grain for next year's wheat crop will be scarce, according to M. E. Ward, Du Pont of Canada farm chemicals' specialist.

"Supply and quality of seed for 1955 have been hit by bad weather plus a widespread outbreak of rust," he points out. "Farmers will have to take every precaution with the seed they use for next year's crop. In normal years, the use of treated seed can mean the difference between a good stand and having to replant. But next year there may not be enough suitable seed on hand for a second try," he said.

Farm Chemicals Help Boost World Cacao Production

WASHINGTON — Better care of cacao trees through technological advances has resulted in outstanding increases in world production of cacao, according to the U.S. Department of Agriculture Foreign Agricultural Service.

World production of cacao for 1954-55 has been forecast at 1,782 million pounds, as compared to 1,586 million pounds in the 1953-54 crop.

Most of the producing countries report extensive fertilization, tree spraying and intensified agricultural research at cacao experimental stations and plant nurseries give promise of even higher yields.

Control of the various diseases affecting cacao production still requires extensive work, especially in the Gold Coast of Africa. Swollen shoot remains a serious problem throughout this area where about 30 million damaged trees occupying 50,000 acres have been cut out and 11,000 acres replanted. Since this program began in 1948 farmers have been paid more than the equivalent of \$9.5 million for the removal of damaged trees and replanting.

Effective control methods for black pod rot and capsid damage have been developed recently, and a control program is now being planned in the Gold Coast area.

Gloomicides

Oven Man: "Would you increase my wages? I was married yesterday."

"Sorry," said the foreman, "but we are not responsible for accidents outside the factory."

A millionaire was showing a friend around his new "push-button" home. "Now I'll show you the best of the lot," said the millionaire. "After night out, I sometimes feel I would like to step into a nice hot bath right here without the trouble of going into the bathroom. I just press this button here—"

He pressed the button and in rolled a bathtub, full of nice hot water—and his wife!

Judge (to amateur yegg): "So they caught you with this bundle of silverware. Whom did you plunder?"

Yegg: "Two fraternity houses, Your Honor."

Judge (to Sergeant): "Call up the downtown hotels and distribute this stuff."

A naval officer fell overboard. He was rescued by a deck hand. The officer asked how he could reward him.

"The best way, sir," replied the gob, "is to say nothing about it. If the other fellows knew I'd pulled you out, they'd chuck me in."

"Daddy," said the six-year-old pupil of a progressive school. "Dickie said a very naughty word today."

"Is that so?" remarked the parent. "What did he say?"

"Oh, we're not encouraged to use such words—but if you want to say all the bad words you know, I'll tell you when you come to it."

A college education seldom hurts a man if he's willing to learn a little after he graduates.

One crying need of humanity is reducing diet for fatheads.

British Field Marshal Montgomery always examines the films which have been listed for presentation to his troops. One day he noticed on the list a film entitled "The Red Army." Monty called in his officers and had a long talk about the strength of the Russian Army, its internal organization, etc. Then they adjourned to the auditorium to watch the movie. The light went out and on the screen appeared the full title of the film: "The Red Army, the Life and Habits of Ants."

Spray-Curing of Clover Seen Profitable

DAVIS, CAL.—Curing ladino clover seed crop with oil-dinitro sprays and direct combining, which do away with machine harvesters, will allow smaller growers to handle their own harvesting and at much less expense, according to a University of California agronomy specialist, Luther G. Jones, who has conducted a series of experiments.

The oil-dinitro spray kills the plant growth above ground, causing the leaves, small stems and seed pods to dry rapidly. In about two days the clover is ready for combining.

Seedbeds should be carefully prepared for direct-combining, said the Davis agronomist. Width between irrigation checks should be the same as the swath cut by the harvester. Spray cured and direct combined ladino seed should be dried or cleaned immediately after harvesting to prevent heating in the seedhouse, said Mr. Jones.

Program Set for Midwestern Shade Tree Conference

ST. LOUIS — The 10th annual meeting of the Midwestern Chapter of the National Shade Tree Conference will be held Feb. 23-25 in the Chase Hotel, St. Louis.

The convention is open to all who wish to attend. Registration of delegates will start at 8:30 a.m. Feb. 23, and the first paper on the educational program will be presented at 11 a.m. An attendance of approximately 300 members and guests is expected.

The program is primarily directed to discussion of problems of concern to those who perform tree work in the midwest, but included also are topics of interest to arborists from all sections of the country. Following presentation of each paper there will be a period for discussion and questions.

Additional opportunity for questions and discussion will be provided in the plant clinic session which will be held Friday morning. Various tools and supplies used in arboricultural

work will be on display in the Chase Hotel throughout the convention, with representatives on hand to explain their uses. A special program has been arranged for the ladies.

Included on the educational program are the following topics and speakers:

"Correlating Planting to Modern Architecture," Stuart M. Mertz, landscape architect, Clayton, Mo.; "Ethical Practice Is Good Business," Leslie Prichard, advertising censor and research director, St. Louis Post-Dispatch; "Tree Diseases in the Midwest," Dr. T. W. Bretz, University of Missouri; "Trace Elements and Their Effect on Plant Life," Dr. E. R. Spencer, consulting botanist and plant pathologist, Lebanon, Ill.; "Damage to Shade Trees from Construction Operations," Gerrit A. Visser, Shield Shade Tree Specialists, Clayton, Mo.; "Concentration and Timing of Antibiotic Sprays for Control of Fire Blight," Dr. Robert N. Goodman, University of Missouri; "Weather Effects on Tree Growth," August P. Beilmann, Missouri Botanical Garden, Gray Summit, Mo.; "Dutch Elm Disease and Elm Phloem Necrosis," a film presented by Ernie Herrbach, Standard Oil Co., Chicago.

Agronomist Stresses Fertilizer Potential

DALLAS — J. H. Gardenshire, agronomist at the Denton, Texas, Experiment Station, says farmers are losing much from their pockets by not using more fertilizers. Several farmers in Denton, Collin, Dallas, Tarrant, Grayson and Cooke Counties have doubled their yield of small grains by using recommended fertilizer treatments.

"Tests in these counties for the last seven years prove that the average wheat yield can be increased 10 bu. an acre and the average oat yield 24 bu. an acre," he said.

The six counties average seeding 30,000 acres to wheat annually, and 25,000 to oats. With wheat at \$2.18 bu. and oats at 81¢, the average county would gross an extra \$740,000 from the small grain crop. This would amount to \$5.47 an acre.

DEALER MEETING

CARTHAGE, MO.—A meeting has been scheduled for fertilizer dealers in Southwest Missouri at the Drake Hotel here Jan. 5.

Washington-Idaho Wheat Growers Form New Group

SPOKANE, WASH. — The Washington-Idaho Wheat League divorced itself from its parent organization, The Washington State Farm Bureau, here recently, dissolved and then reorganized as the Washington Association of Wheat Growers.

Efforts to effect the separation have been carried on for more than a year. John Stephenson, Benge, Wash., newly elected president of the association, said the new group will concentrate its first year efforts on building up strong county organizations. There are more than 8,000 wheat farmers in the state eligible to join.

In a series of resolutions adopted at the organization meeting the group recommended "earnest consideration be given a national multiple price system for wheat."

Other officers are Donald Moos, Edwall, Wash., first vice president, and Edgar L. Smith, St. John, second vice president. Ken Parks, Fairfield, was named temporary secretary.

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A comprehensive study of nutrient-deficiency symptoms in crops compiled by 19 of the leading authorities in the field. It is being widely used by college professors, research and extension specialists, industrial chemists and agronomists, county agents, and teachers of vocational agriculture. Many farmers have found it of particular value in planning their fertilizer programs. Cloth bound, 396 pages,

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AMMONIA PRODUCTION BEGINS—John G. Carriere, (left) manager of Grace Chemical Co.'s new plant near Memphis, shakes hands with C. U. Ellis, superintendent of the Plant Food Division of Swift & Co., Chicago, signifying completion of the deal wherein Swift & Co. purchases the first carload of ammonia produced at the Grace plant. Looking on is Frank Ronan, Chicago District sales manager for Grace. The new \$20 million plant for production of ammonia and urea went on stream Dec. 21. A formal dedication of the plant is scheduled for Jan. 6, with Samuel W. Anderson, assistant secretary, U.S. Department of Commerce listed as principal speaker on the program. Mr. Anderson, in charge of the department's international affairs since the beginning of the Eisenhower administration, has been prominent in government circles since the start of World War II. His address will be given before several hundred Grace company guests who will include industrial, agricultural and political leaders of the South as well as newspaper editors from the area and editors of national publications.

Grower Finds Use Of 2,4-D Profitable

FARGO—Weed control with 2,4-D is a profitable farm practice, according to the experience of Richard Bultema, near Wimbledon, N.D. The past season he compared the yields on treated and untreated parts of a barley field. He found his barley

yielded 36 bu. an acre where 2,4-D had been applied, compared with 29½ bu. an acre on land that had received no 2,4-D.

Another advantage gained by the weed control operation was a reduction in dockage when the grain was marketed. Barley from the treated part of the field showed 1½% dockage, compared with 4% dockage on the untreated part.

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Twenty-four of the insects described in Croplife's weekly feature, "Bug of the Week" are being reprinted into an attractive 8½ x 11 inch booklet for distribution to the trade. Single copies 25c; quantity rates on request. Firms wishing to imprint their own names on back cover may do so at moderate extra cost.

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Meadow Spittlebug	White Grub
Mosquito	Wireworm

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Table 1

Preliminary estimate of fertilizer consumption, year ended June 30, 1954¹

Region	All fertilizers ²		
	Mixtures	Quantity	Relative consumption
	1,000 tons	1,000 tons	1952-53=100 Percent
New England ³	365	435	93
Middle Atlantic ⁴	1,850	2,080	98
South Atlantic ⁵	4,990	6,095	97
East North Central ⁶	3,685	4,870	95
West North Central ⁷	1,350	2,235	107
East South Central ⁸	2,025	3,080	97
West South Central ⁹	715	1,395	99
Mountain ¹⁰	65	385	106
Pacific ¹¹	350	1,900	94
Continental U.S.	15,395	22,475	98
Territorial ¹²	280	400	107
Total: 1953-54	15,675	¹³ 22,875	98
1952-53	15,722	¹³ 23,413	100
1951-52	15,086	¹³ 22,432	96

¹Includes fertilizers distributed by government agencies.

²Includes mixed fertilizers, primary nutrient materials used directly colloidal phosphate and phosphate rock, basic slag, processed manures, sewage sludge, secondary and trace element materials. Does not include limiting materials, but includes gypsum.

³Maine, N.H., Vt., Mass., R.I., Conn.

⁴N.Y., N.J., Pa., Del., D.C., Md., W.Va.

⁵Va., N.C., S.C., Ga., Fla.

⁶Ohio, Ind., Ill., Mich., Wis.

⁷Minn., Iowa, Mo., N.D., S.D., Neb., Kan.

⁸Ky., Tenn., Ala., Miss.

⁹Ark., La., Okla., Tex.

¹⁰Mont., Idaho, Wyo., Colo., N.Mex., Ariz., Utah, Nev.

¹¹Wash., Oregon, Calif.

¹²Hawaii, P.R., Alaska.

¹³Materials not guaranteed to contain N, P₂O₅, or K₂O included in 1953-54 totals, 580,000 tons; in 1952-53, 877,487 tons; and in 1951-52, 785,050 tons.

Table 2

Preliminary estimate of primary plant nutrients contained in all fertilizer and average nutrient content of mixtures, year ended June 30, 1954

Region	N 1,000 tons	Available P ₂ O ₅ ¹ 1,000 tons	K ₂ O 1,000 tons	Quantity 1,000 tons	Total Nutrients	
					Relative consumption 1952-53=100 Percent	Weighted average percent in mixtures
New England	26	44	47	117	93	28.4
Middle Atlantic	110	238	186	534	101	26.4
South Atlantic	378	473	468	1,319	99	22.0
East North Central .	266	534	584	1,384	103	31.7
West North Central .	234	331	155	720	116	35.4
East South Central .	267	284	210	761	101	23.6
West South Central .	164	151	92	407	105	26.3
Mountain	69	58	3	130	115	29.9
Pacific	240	94	31	365	110	27.2
Continental U.S. ...	1,754	2,207	1,776	5,737	104	26.7
Territorial	56	20	38	114	104	28.9
Total: 1953-54	1,810	2,227	1,814	5,851	104	26.8
1952-53	1,637	2,271	1,740	5,648	100	25.9
1951-52	1,422	2,199	1,582	5,203	92	24.9

¹Includes 2 percent of the colloidal phosphate and 3 percent of the phosphate rock marketed for direct application, as available P₂O₅.

FERTILIZER CONSUMPTION

(Continued from page 1)

mixed fertilizers (2 to 18%) occurred only in the Middle Atlantic, West North Central and Pacific regions and the territories. The tonnage of materials for direct use was higher (2 to 10%) only in the West North Central and Mountain regions and the territories.

The increase in nitrogen consumption was 173,000 tons (10.6%) and in K₂O, 74,000 tons (4.3%), but the consumption of P₂O₅ decreased 44,000 tons (2%).

The amounts and proportions of the nutrients consumed in mixed fertilizers were 798,000 tons (44%) for nitrogen, 1,789,000 tons (80%) for P₂O₅, and 1,609,000 tons (89%) for K₂O. Materials for direct use accounted for 103,000 tons of the increase in nitrogen.

Although mixtures supplied 7,000 tons more P₂O₅ than in 1952-53 the use of this nutrient in direct-application materials decreased 51,000 tons. The use of K₂O increased 55,000 tons in mixtures and 19,000 tons in materials for direct application.

In most regions east of the Mississippi, there was a decrease in the use of P₂O₅ both in mixtures and as material for direct application, according to the report.

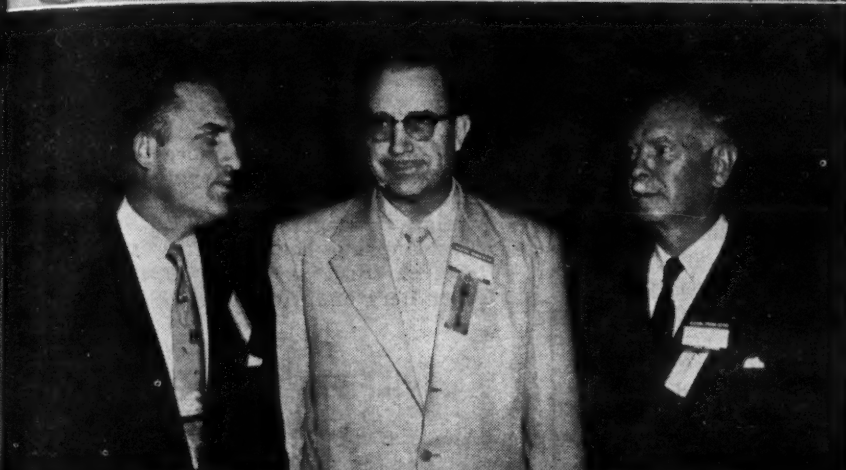
The weighted average plant nu-

trient content of mixtures are shown in Table 2. The national average increased from 25.85% in 1952-53 to 26.8% in 1953-54. This average, in 1953-54, comprised, nitrogen 5.1 P₂O₅ 11.4, and K₂O 10.3%. The values for these nutrients in 1952-53 were 4.63, 11.34, and 9.88%, respectively.

New Field Station

BERKELEY, CAL. — A new field station will be built on just-purchased land in Orange County, according to an announcement by Harry W. Wellman, vice president of agricultural sciences of the University of California here. The educational institution has just purchased 200 acres of land for this purpose, he said. When completed the station, located near Santa Ana, will be used for experimental work on subtropical fruits such as avocados, lemons and Valencia oranges, on certain vegetable crops, and in floriculture and ornamental horticulture. Research at the station will be directed toward devising better insect and disease control methods, the study of pesticides, insecticides, the developing of new plant varieties, propagation techniques, solving soil and irrigation problems.

AT AAI Convention
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AT AAI CONVENTION—Shown above are several scenes at the recent convention and trade show of the Agricultural Ammonia Institute, held in New Orleans. In the top photo are six of the newly elected directors. From left to right they are, back row, Charles Corken, Corken's, Inc., Oklahoma City; M. H. Carter, Farmers Supply Cooperative, Greenwood, Miss., and M. O. Rasberry, Delta Liquid Fertilizer Co., Helena, Ark. In the front row are O. L. Garretson, United Farm Chemical Co., Roswell, N.M.; John W. Dugan, Plantation Fertilizers Corp., Houma, La., and Norman LeBlanc, Henry Valve Co., Melrose Park, Ill. Three new directors were missing when the picture was taken. They are C. J. Buyer, Mid-West Fertilizer Co., Vincennes, Ind.; Tully W. Talbot, Chemco, Audubon, Iowa, and Larry H. Wright, Phillips Petroleum Co., Bartlesville, Okla.

In the center picture are, from left to right, Dr. Russell Coleman, president of the National Fertilizer Assn., Washington, who spoke at the convention; E. W. Thomas, Farm Service Corp., Boonville, Mo., retiring president of AAI, and Gen. Ralph H. Wooten, Mid-South Chemical Co., Inc., Memphis, chairman of the AAI publications committee and newly-elected treasurer of the Institute.

In the lower photo are members of a panel who discussed ammonia equipment. From left to right are Otho Clark, Clark Manufacturing Co., Atherton, Mo.; Charles Woods, Olin Mathieson Chemical Corp., Baltimore; Charles W. Bourg, PV-82, Lincoln, Neb., panel leader; J. R. Turner, Shell Chemical Corp., San Francisco, and Norman LeBlanc, Henry Valve Co., Melrose Park, Ill. For the complete story of the convention see page 1 of the Dec. 13 issue of Croplife.

University of California Names Forest Entomologist

BERKELEY, CAL.—Arthur D. Moore has been named the first forest entomologist ever appointed to the staff of the University of California here. He will serve on the Berkeley campus and formerly was with the U.S. Forest Experiment Station. Mr. Moore's duties will consist largely of studying the forest insect situation in Northern California, according to E. Gorton Linsley, chairman of the department of entomology and parasitology.

Lumbermen have been urging

that greater emphasis be placed on such studies because of the increased relative importance of forest insect damage in recent years. Insects accounted for about \$17 million in damage to California forests last year, as reported in the figures of the U.S. Forest Experiment Station.

Mr. Moore, a graduate of New York State College of Forestry, has specialized in control of bark beetles with insecticides. Bark beetles are the principal enemies of the Western yellow pine.

Mr. Moore will have his headquarters in Agriculture Hall on the Berkeley campus, with the title of assistant specialist in the Agricultural Experiment Station.

Fewer Hibernating Weevils Found in Louisiana Check

BATON ROUGE—Ground trash examinations at various points in Louisiana during November revealed only about half as many hibernating boll weevils as were found during the same period of 1953, according to Kirby L. Cockerham, entomologist with the Louisiana State University Agricultural Extension Service.

The study was directed by R. C. Gaines, research entomologist with the U.S. Department of Agriculture Cotton Laboratory at Tallulah. The laboratory makes several such surveys during the winter and early spring.

In the 10 samples of trash examined, according to the cotton laboratory announcement, the weevil estimates ranged from 242 to the acre to 7,502. The average was 2,086, about half as many as were found during the same period of 1953, but 10% more than the average for the past 18 years.

Pacific Grain Group Conducts 10 Meetings

SPOKANE, WASH.—A series of 10 district meetings of the Pacific Northwest Grain Dealers Association, Inc., with a total attendance of over 600 persons, has been concluded. Meetings were held in Walla Walla, Arlington, Colfax, Lind and Wilbur, Wash.; LaGrande, and Portland, Oregon, and Lewiston, Caldwell and Pocatello, Idaho.

CORN GROWERS' BANQUET

LAFAYETTE, IND.—F. L. Hovde, president of Purdue University, and Lt. Gov. Harold Handley, commissioner of agriculture in Indiana, will speak at the Indiana Corn Growers' Assn. banquet Jan. 7.

Fertilizer Conference Scheduled at Farm Cooperative Meeting

WASHINGTON—A wide range of technical subjects closely related to day-to-day activities of farmer cooperatives will be discussed at a series of nine special conferences scheduled during the 26th annual meeting of the National Council of Farmer Cooperatives, to be held at the Edgewater Beach Hotel, Chicago, Jan. 5-8, 1955.

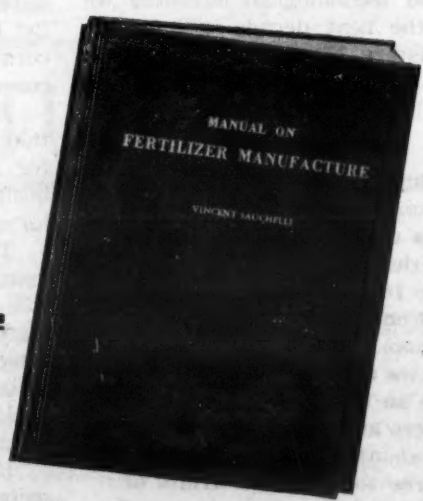
Opening the fertilizer and chemicals meeting Jan. 6, will be a panel discussion of "Experiences in Converting to Granular Fertilizer." Taking part will be Ray L. Pavlak, Wisconsin Farmco Service Cooperative, Madison, Wis.; Joe Chucka, Eastern States Farmers' Exchange, Inc., West Springfield, Mass.; Ed Smith, Cooperative G.L.F. Exchange, Inc., Ithaca, N.Y.; Adolph Ecklund, Farm Bureau Services, Inc., Lansing, Mich., and Arthur R. Mullin, Indiana Farm Bureau Cooperative Association, Inc., Indianapolis, Ind.

"The New Pesticide Tolerance Legislation" will be discussed by Ed Georgi of United Co-Operatives, Inc., Alliance, Ohio, and Louis Iverson of the Illinois Farm Supply Co., Chicago, will talk on "Liquid Fertilizers." Also on this program will be a discussion of "Use of Anhydrous, Phosphatic and Sulphuric Acids in Fertilizer Formulas" by Cliff Kindschi of Wisconsin Farmco Service Cooperative, Madison, Wis.

Also among conference subjects will be farm supplies and services, agricultural credit and farm machinery.

HEADS COUNTY AGENTS

LARAMIE, WYO.—Jack P. Lowry, Washakie County agricultural extension agent, has been elected president of the Wyoming County Agricultural Agents' Assn.



MANUAL ON FERTILIZER MANUFACTURE Second Edition

By Vincent Sauchelli, Director of Agricultural Research, Davison Chemical Co., Div. W. R. Grace & Co.

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Croplife

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY
The rotational circulation of this issue is concentrated in the Southern states.

A Gospel of Optimism

A message of optimism that deserves wide repetition was contained in some remarks made recently by Earl L. Butz, assistant secretary of agriculture. Mr. Butz was talking to bankers, but what he said applies just as well to all of us. Entirely too many Americans, he said, suffer under the economic illusion that it is abnormal, in fact disastrous, for the economic graph to dip modestly downward once in several years. Some of the modern-day alarmists would try to impose a new politically-created artificial boom on top of a war-created artificial boom, and push our economy from one unstable excess to another.

"We have no new evidence that man can circumvent the law of action and reaction, even in his economic behavior," Mr. Butz said. "Within that framework, however, the long time growth curve of the economy is distinctly upward."

"... The outlook for the American economy is good. There will inevitably be periods of modest adjustment, such as we experienced early in 1954, but we must be prepared to 'ride them through' just as we did the recent adjustment. The decline in business activity from the peak levels of the Korean war period to last summer turned out to be one of the mildest on record. All the shouting about it was more political than economic. The shift from a war economy to a semi-peace economy occurred with remarkably little disturbance—much less than we experienced in 1948-49. And our politicians did not make nearly so much noise about 1949 as they did about 1954."

The scientific and technological advances we will experience in the next decade will be unparalleled in the history of America, Mr. Butz said. The greatest decade in our history lies immediately ahead. This is true for both agriculture and business.

"The geographic frontier in America is gone. No longer can a young man 'go west' and stake out his claim. But the scientific frontier in America is barely scratched. And the scientific frontier has no effective limit. It is limited only by the mind and the imagination of man. It follows logically, therefore, that if we can keep our economy free and preserve an environment in which individual producers and scientists are free to dream a little about new techniques and new ideas, and free to enjoy the fruits of their dreams, we shall experience phenomenal progress in the next generation."

"We live in an era of the most rapid scientific and technological change of all time. American agriculture is now feeding our growing population through science and technology. We have increased our total agricultural output in the last four decades by 75%, on roughly the same acreage we had previously, and with 2½ million fewer farm workers. Even in the 15 years since the beginning of World War II, American farmers have increased total production by 47%, with no increase in acres and with one and three-fourths million fewer workers on the farms. In the same interval, we have increased our steel production capacity by some two-fifths, and have doubled our electric power production capacity. The atomic age in which we live is less than a decade old. Surely a broad base is laid for a substantial further rise in living standards for the average man and woman in America."

"In this environment of national growth and expansion, American agriculture has a glorious future. American agriculture is still a good stable industry. And it always will be. Those who are actively engaged in it must never lose confidence in its future."

"Farmers believe in the free enterprise system. They know it has produced in Amer-

ica the broadest opportunity for a free and prosperous citizenship that exists any place in the world.

"Agriculture offers equally as good an opportunity over the next generation as any other comparable vocation for the young man or young woman who desires a satisfactory living standard, an opportunity to live and rear a family in a wholesome environment, and the ability to provide one's own security for his declining years."

The challenge of the next decade is unprecedented for men and women of vision and ambition. It is the best antidote for the gimme disease of government supports—and controls.

How Many Corn Insects?

Most every farmer is familiar with a half-dozen or so insects that make it hard for him to grow any particular crop. Asked to name his worst insect enemies, a corn farmer would quickly tick off earworm, European corn borer, grasshopper, and perhaps a few others.

But F. F. Dicke, U.S. Department of Agriculture entomologist, who made a study of pests attacking corn, says that's only a good beginning. He lists 35, including nearly 400 species, of what he terms "the more important corn insects."

Among these 35 insects of corn are enemies that attack every stage of growth and use of the crop. Seed, roots, stalk, leaves and ears fall prey to one or more insects. Others carry corn diseases. Still others attack stored corn in bin and elevator, or meal and flour in mill and home.

Take away a few of the foreign insects that have found their way to the U.S., and Mr. Dicke's list includes about the same names that damaged corn grown in Colonial America. Why, then, the concern?

Early American farmers grew only the corn they needed. But today's farmer must grow enough for himself and 14 others. Raising corn is his business—one that depends on efficient production for success.

Today's successful corn farmer still employs many of the early-developed cultural control methods—corn rotation, stalk destruction, timely planting and proper tillage. He is assisted by beneficial insects deliberately established in this country by entomologists.

He has been getting more spectacular help from organic insecticides.

Here is Mr. Dicke's list of important corn insects:

Underground feeders: Corn rootworms, cutworms, wireworms, billbugs, sod webworms, white grubs, corn root aphid, seed-corn maggot, sugarcane beetle, grape colapsis and seed-corn beetles.

Leaf, stalk and ear feeders: Corn earworm, European corn borer, fall armyworm, southern cornstalk borer, southwestern corn borer, armyworm, lesser cornstalk borer, chinch bug, grasshoppers, corn leaf aphid, corn flea beetle, Japanese beetle, thrips, and leafhoppers.

Stored-grain feeders: Rice weevil, granary weevil, flat grain beetle, saw-toothed grain beetle, cadelle, flour beetles, Angoumois grain moth, Indian-meal moth, pink corn worm, and other stored-grain insects.—From Agricultural Research, published by Agricultural Research Service, USDA.

Extension Touches Millions

Extension work done by state colleges affect the lives of more people than would appear at a casual glance. According to a recently-compiled report by the U.S. Department of Agriculture, an estimated 5,393,822 families changed one or more of their agricultural practices in 1953 as a result of extension activities. This total was 16% greater than was reported in 1952.

Of this number, 3,349,661, or 62.1%, were farm families. This indicates that extension activities are by no means limited to farm folks.



CROPLIFE is a controlled circulation journal mailed to those responsible for the production and distribution of fertilizer and other farm chemicals and to retail dealers of the agricultural chemical industry in the U.S. To those not on the controlled list, CROPLIFE is available at \$5 for one year, \$9 for two years (\$8 a year outside the U.S. and possessions). Single copy price, 25¢.

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THE AMERICAN BAKER

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MILLING PRODUCTION

MEETING MEMOS

Jan. 3-7—Annual Agricultural Conference, Purdue University, Lafayette, Ind.

Jan. 4-5 — North Carolina Seventh Annual Pesticide School, College Union Bldg., North Carolina State College, Raleigh, N.C.

Jan. 5—Southwest Louisiana Fertilizer Clinic, Zeigler Hotel, Jennings, La., Sponsored by the Louisiana Plant Food Educational Society.

Jan. 5-7—Northeastern Weed Control Conference, New Yorker Hotel, New York.

Jan. 6—Louisiana Sugar Cane Belt Fertilizer Clinic, Agricultural Bldg., Thibodaux, La., Sponsored by the Louisiana Plant Food Educational Society.

Jan. 6-7—Texas Fertilizer Conference, Texas A. & M., College Station, Texas.

Jan. 6-7—Fertilizer Industry Conference, University of Illinois, Illinois Union Bldg., Urbana, Ill.

Jan. 6-7—Mississippi Insect Control Conference, Mississippi State College.

Jan. 6-7—Nebraska State Weed Conference and Equipment Show, Lincoln Hotel, Lincoln, Neb.

Jan. 10-14—Third Annual Colorado Fertilizer Conference, Colorado A & M College, Fort Collins, Colo.

Jan. 13—Soils Day at Minnesota Farm and Home Week, Soils Bldg., Farm Campus, University of Minnesota, St. Paul Campus.

Jan. 14—Mississippi Section, American Society of Agronomy, State College, Mississippi, Harrison Evans, Shuqualak, Miss., president.

Jan. 17—Iowa Fertilizer Manufacturers' Conference, Iowa State College, Ames, Iowa.

Jan. 17-19 — Southern Weed Conference, Soreno Hotel, St. Petersburg, Fla., Dr. Earl G. Rodgers, University of Florida, conference secretary.

Jan. 17-19—Cotton States Branch, Entomological Society of America, Annual Meeting, Tampa Terrace Hotel, Tampa, Fla.; W. G. Eden, Department of Zoology-Entomology, Alabama Polytechnic Institute, Auburn, Ala., secretary-treasurer.

Jan. 17-19—Pacific Northwest Vegetable Insect Conference, Imperial Hotel, Portland, Ore. (Open meetings Jan. 19 at Benson Hotel in connection with Pacific Northwest Agricultural Chemical Industry Conference.)

Jan. 18—Georgia Plant Food Educational Society, Third Annual Meeting, University of Georgia, Athens.

Jan. 18—Iowa Fertilizer Dealers' Short Course, Iowa State College, Ames, Iowa.

Jan. 19-21—Pacific Northwest Agricultural Chemical Industry Conference, Benson Hotel, Portland, Ore., sponsored by the Western Agricultural Chemical Assn.

Jan. 19-21 — Northwest Cooperative Spray Project, Imperial Hotel, Portland, Ore. (Open meetings Jan. 21 at Benson Hotel in connection with Pacific Northwest Agricultural Chemical Industry Conference.)

Jan. 20-21—Illinois Custom Spray Operators School, Illinois Union, Urbana, Ill.

Jan. 24-26—Pennsylvania Lime and Fertilizer Salesmen's School, Pennsylvania State University, State College, Pa.

Jan. 26—Northern California Nurs-

erymen's Institute, University of California College of Agriculture, Davis, Cal.

Jan. 26-27—Eighth Annual California Weed Conference, Caribillo Hotel, Santa Barbara, Calif.

Jan. 28 — Colorado Agricultural Chemicals Assn., Annual Meeting, Cosmopolitan Hotel, Denver, W. D. Smith, P.O. Box 5510, Denver 17, President.

Feb. 7-9 — Association of Southern Agricultural Workers, 52nd annual meeting, Louisville; B. B. Jones, P. O. Box 1460, New Orleans, secretary-treasurer.

Feb. 8-11 — Fertilizer-Seed Dealers Conference, University of Tennessee, Knoxville, Tenn.

Feb. 10-11—Crop and Soil Conference, Oklahoma A. & M., Stillwater, Okla.

Feb. 14-16 — Centennial Symposium, Nutrition of Plants, Animals, Man, Michigan State College, East Lansing, Mich.

Feb. 17-18—Middle West Soil Improvement Committee, Annual Meeting with Agronomists, Palmer House, Chicago, Z. H. Beers, 121 W. Wacker Drive, Chicago 1, Ill., Executive Secretary.

Feb. 23-25—Tenth Annual Meeting of Midwestern Chapter, National Shade Tree Conference, Chase Hotel, St. Louis, N. B. Wysong, Cook County Forest Preserve, 536 N. Harlem Ave., River Forest, Ill., secretary-treasurer.

March 8-9—Western Cotton Production Conference, Hotel Westward Ho, Phoenix, Ariz.; National Cotton Council, P.O. Box 18, Memphis 1, Tenn.

March 22-24—National Farm Chemurgic Council, Inc., Annual Conference, Deshler-Hilton Hotel, Columbus, Ohio; John W. Ticknor, NFCC, 350 Fifth Ave., New York, conference chairman.

Aug. 15-19 — American Society of Agronomy and Soil Science Society of America, University of California, Davis Campus.

Classified Ads

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Sept. 7-9 — Ninth Annual Beltwide Cotton Mechanization Conference, Texas A&M College, National Cotton Council of America, Box 18, Memphis 1, Tenn.

Dec. 5-7—Agricultural Ammonia Institute, Kansas City; Jack F. Criswell, Executive Vice President, Claridge Hotel, Memphis, Tenn.

Nebraska Fertilizer Sales Show Increase

LINCOLN, NEB.—Retail fertilizer sales in Nebraska during the fiscal year ended last June 30 totaled 199,027 tons, according to a report by the State Department of Agriculture and Inspection. This total was an increase of 37.8% from the 144,412 tons sold during the previous fiscal year.

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Working under the direction of Croplife's seasoned and experienced editors in the Minneapolis Home Office is the Advertiser Service Department, headed by a trained statistician and market research man who directs the work of a library and research staff of five persons.

Croplife's advertising sales staff includes full-time staff members in each branch office, with several years of experience in businesspaper advertising, whose first objective is to be of service to advertisers and agencies interested in the field served by Croplife. These representatives know agriculture thoroughly and their experience in

industries and organizations serving the agricultural field qualifies them highly for their advertising sales and service assignments. Included in this wealth of experience are previous assignments with agricultural experiment stations, the United States Department of Agriculture and daily and weekly newspaper work in agricultural communities.

In the nation's capital, Croplife has its own Washington correspondent, a veteran capital newsman who interprets the Washington scene in terms of short and long range impact on the industry. In looking behind the government news releases he is able to report valuable information on trends and significant behind-the-scenes activities.

Croplife's full-time foreign office, with headquarters in Toronto, is alert to overseas developments of interest to the agricultural chemical industry and handles requests from advertisers and agencies for information and service on the foreign market.

Advertisers and advertising agencies interested in the agricultural chemical industry are invited to make use of this advertiser service program.

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